**APPENIDIX 1**

Legal Authorities

Example 1: Administrative Order for Public Health Emergency

Arizona Department of Health Services

*Office of the Director*
*Office of Administrative Rules and Counsel*

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JANET NAPOLITANO, GOVERNOR
SUSAN GERARD, DIRECTOR

**ARIZONA DEPARTMENT OF HEALTH SERVICES**

**ADMINISTRATIVE ORDER 2008-01**
**(Emergency Measure for Measles)**

**WHEREAS**, the Director of the Department of Health Services may define and prescribe emergency measures for detecting, reporting, and controlling communicable or infectious diseases or conditions, the Director has reasonable cause to believe that a serious threat to public health and welfare exists, pursuant to Arizona Revised Statutes § 36-136(G); and

**WHEREAS**, there is a need to prevent the spread of measles, a highly contagious and potentially lethal disease that represents a serious threat to the public health; and

**WHEREAS**, the need for emergency measures is established by the following:

1. 20 measles cases have been confirmed and 54 suspect measles cases in Pima County demonstrate the need to vaccinate the public in Pima County.

2. On May 1, 2008, the Pima County Board of Supervisors declared a Public Health Emergency in Pima County due to the presence and subsequent spread of measles in Pima County.

**NOW, THEREFORE,** I, Susan Gerard, by virtue of the authority vested in me as the Director of the Department of Health Services under A. R.S. § 36-136(G), do hereby Order the following emergency measures to be adopted for preventing and controlling measles in Pima County:

1. Suspend the requirement in A.A.C. R9-25-501(F) that requires Pima County to contract with a medical director that is qualified under A.A.C. R9-25-204 or A.A.C. R9-25-205 for immunization clinics.

2. Suspend the requirement in A.A.C. R9-25-204(A) that prevents a physician from providing administrative medical direction for measles immunization clinics unless the physician meets the requirements in A.A.C. R9-25-204(A)(2).

3. Suspend the requirement in A.A.C. R9-25-205(A) that prevents a physician from providing on-line medical direction for measles immunization clinics unless the physician meets the requirements in A.A.C. R9-25-205(A)(2).

4. Allow Pima County to contract with or employ a physician with public health knowledge and experience to serve as the administrative medical director or the on-line medical director as related to measles immunization clinics conducted by Pima County.

5. Allow an EMT-Intermediate or EMT-Paramedic to act under the authority of the physician contracted with or employed by Pima County to serve as the administrative medical director or on-line medical director as related to measles immunization clinics conducted by Pima County.

6. This Order shall be in effect for six months from the date of signature, unless renewed prior to that date.

**I** have executed this Order on this 12th day of May 2008, having the authority to do so under Arizona Law.

**Susan Gerard, Director**

State of Arizona )
)
County of Maricopa )

**ON** this 12th day of May, 2008, before me personally appeared Susan Gerard, Director of the Arizona Department of Health Services, whose identity was proved to me on the basis of satisfactory evidence to be the person whose name is subscribed on this document, and who acknowledged that he/she signed the above/attached document.

Donna Meyer
**Notary Public**

OFFICIAL SEAL
DONNA MEYER
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires June 19, 2010

Example 2: Administrative Order for Emergency Measures for Pandemic Influenza

**ARIZONA DEPARTMENT OF HEALTH SERVICES**

**ADMINISTRATIVE ORDER 200X-XX**

**(Emergency Measures for Pandemic Influenza)**

**WHEREAS,** pursuant to A.A.C. R9-6-102, a person in possession of protected health information, as defined in 45 C.F.R. 160.103, shall release the protected health information to the Department or a local health agency upon request if the protected health information is requested for the purpose of detecting, preventing, or controlling disease, injury, or disability.

**WHEREAS**, there is a need to request protected health information for the purpose of detecting, preventing, or controlling pandemic influenza, as established by the following:

1. Pandemic influenza represents a serious threat to public health. Pandemic influenza is a recently recognized, contagious febrile respiratory illness associated with infection by a novel influenza virus known as Influenza A (H1N1). Pandemic influenza manifestations are often severe, including death, and severe illnesses often occur in previously healthy persons, including health care workers.
2. While Pandemic influenza can be highly contagious, its overall rate of spread is slow enough that it can often be contained with early recognition and aggressive implantation of control measures. The key to controlling pandemic influenza is prompt detection of cases and their contacts, followed by rapid implementation of control measures.
3. Effective surveillance for pandemic influenza is challenging because the early signs and symptoms of Influenza A (H1N1) are not specific enough to reliably distinguish pandemic influenza from other common respiratory illnesses. Thus, risk of exposure is key to considering the likelihood of a pandemic influenza diagnosis, and pandemic influenza surveillance efforts need to be determined by the presence of known Influenza A (H1N1) transmission in the world.
4. In April 2009, the World Health Organization adopted interim guidelines for the global surveillance of influenza A (H1N1). These emergency measures are needed to implement the WHO guidelines for the detection and control of pandemic influenza.

**WHEREAS,** the Director of the Department of Health Services, pursuant to the Declaration of Emergency issued by the Governor of Arizona at (date, time), and as authorized by A.R.S. § 36-787(A)(6) may establish, in conjunction with applicable professional licensing boards, a process for temporary waiver of the professional licensure requirements necessary for the implementation of any measures required to adequately address the state of emergency.

**WHEREAS,** the Director of the Department of Health Services, pursuant to the Declaration of Emergency issued by the Governor of Arizona at (date, time), and as authorized by A.R.S. § 36-787(A)(7), may waive the statutes and rules governing health institution licensing in A.R.S. Title 36, Chapter 4, and A.A.C. Title 9, Chapter 10 as necessary for the implementation of any measures required to adequately address the state of emergency.

**NOW, THEREFORE**, I Will Humble, by virtue of the authority vested in me as the Interim Director of the Arizona Department of Health Services, do hereby Order the following emergency measures to be adopted for detecting, preventing, or controlling pandemic influenza in Arizona, waiving professional licensure requirements, and waiving the statutes and rules governing health care institutions:

**A. Reporting Requirements and Control Measures in the Absence of Known Person-to-Person Transmission of Pandemic Influenza Worldwide**

1. A health care provider[1] or administrator of a health care institution[2] shall:

[1] "Health care provider" means a physician, physician assistant, registered nurse practitioner, or dentist.

[2] "Health care institution" has the same meaning as in A.R.S. § 36-401.

a. Ensure that each patient hospitalized for influenza like illness is screened for the following that might indicate a higher index of suspicion of Influenza A (H1N1) infection:
   i. In the 10 days before illness onset, travel to or close contact with another ill individual who recently traveled to a geographical area with known Influenza A (H1N1) activity.
b. Immediately report to the local health agency by telephone or equally expeditious means each positive Influenza A (H1N1) test result; and
c. Include the following information in each report made under subsection (A)(1)(b):
   i. The patient's name, address, telephone number, date of birth, race or ethnicity, gender, and occupation;
   ii. The disease, date of onset, date of diagnosis, date of laboratory confirmation (if applicable) and test results; and
   iii. The name, address, and telephone number of the person or agency making the report.

2. A local health agency shall:
   a. Conduct an epidemiologic investigation of each patient reported under subsection (A)(1)(b); and
   b. Forward each report received under subsection (A)(1)(b) to the Department along with the communicable disease reports forwarded each week under R9-6-206 (C), including for each report a description of what action was initiated by the local health agency.

**B. Reporting Requirements and Control Measures in the Presence of Person-to-Person Transmission of Pandemic Influenza**

1. In addition to complying with the reporting requirements and control measures described in subsection (A), a health care provider or administrator of a health care institution shall:
   a. Ensure that each patient presenting to an outpatient clinic with influenza like illness is screened for the following pandemic influenza risk factors:
      i. Travel within 10 days of illness onset to a foreign or domestic location with documented or suspected recent local transmission of Influenza A (H1N1) infection, or
      ii. Close contact with 10 days of illness onset with an individual with known or suspected pandemic influenza;

**C. Waiver of the Statutes and Rules Governing Health Institution Licensing**

The statutes and rules governing health care institution licensing in A.R.S. Title 36, Chapter 4, and A.A.C. Title 9, Chapter 10, including the licensed capacity requirements in A.R.S. § 36-407 and R9-10-203, are waived as necessary for the implementation of any measures required to adequately address the state of emergency, until the Governor of Arizona declares the emergency is over.

**D. Waiver of Professional Licensure Requirements**

All professional licensure requirements are waived according to the process established by the Department of Health Services as necessary for the implementation of any measures required to adequately address the state of emergency.

I have executed this Order on this day _____, 200X
having authority to do so under Arizona Law

_____
**Will Humble, Interim Director, Arizona Department of Health Services**

**ON** this _____ day of _____, 200X
Will Humble, Interim Director of the Arizona Department of Health Services, signed and acknowledged this document in my presence.

**APPENIDIX 2**

CDC & WHO
Pandemic Severity, Intervals, Triggers, and Stages and Strategies

**Pandemic Severity Index**

Appropriate matching of the intensity of intervention to the severity of a pandemic is important to maximize the available public health benefit that may result from using an early, targeted, and layered strategy while minimizing untoward secondary effects. To assist pre-pandemic planning in Arizona, this plan introduces the concept of a Pandemic Severity Index based primarily on case fatality ratio, a measurement that is useful in estimating the severity of a pandemic on a population level and which may be available early in a pandemic for small clusters of outbreaks. Excess mortality rate may also be available early and may supplement and inform the determination of the Pandemic Severity Index. Pandemic severity is described within five discrete categories listed Category 1 to Category 5. Other epidemiologic features that are relevant in the overall analysis of mitigation plans include total illness rate, age-specific illness and mortality rates, the reproductive number, intergeneration time, and incubation period. However, it is unlikely that estimates will be available for most of these parameters during the early stages of a pandemic; thus, they are not as useful from a planning perspective.

The PSI provides a tool for scenario-based contingency planning to guide pre-pandemic planning efforts. Upon declaration by WHO of having entered the Pandemic Period (Phase 6) and further determination of U.S. Government Stage 3, 4, or 5, the CDC's Director shall designate the category of the emerging pandemic based on the Pandemic Severity Index and consideration of other available information. Pending this announcement, communities facing the imminent arrival of pandemic disease will be able to define which pandemic mitigation interventions are most indicated for implementation based on the level of pandemic severity.

**Figure 1: Pandemic Severity Index** (Assumes 30% Illness Rate with Unmitigated Pandemic Intervention)

| Case Fatality Ratio | | Projected Number of Deaths U.S. Population, 2006 |
|---|---|---|
| >2.0% | Category 5 | >1,800,000 |
| 1.0 - <2.0% | Category 4 | 900,000 - <1,800,000 |
| 0.5 - <1.0% | Category 3 | 450,000 - <900,000 |
| 0.1 - <0.5% | Category 2 | 90,000 - <450,000 |
| <0.1% | Category 1 | <90,000 |

Figure 1 provides a graphic depiction of the U.S. Pandemic Severity Index by case fatality ratio, with ranges of projected U.S. deaths at a constant 30 percent illness rate and without mitigation by any intervention. Data on case fatality ratio and excess mortality in the early course of next pandemic will be collected during outbreak investigations of initial clusters of human cases, and public health officials may make use of existing influenza surveillance systems once widespread transmission starts. However, it is possible that at the onset of an emerging pandemic, very limited information about cases and deaths will be known. Efforts now to develop decision algorithms based on partial data and efforts to improve global surveillance systems for influenza are needed.

Multiple parameters may ultimately provide a more complete characterization of a pandemic. The age-specific and total illness and mortality rates, reproductive number, intergeneration time, and incubation period as well as population structure and healthcare infrastructure are important factors in determining pandemic impact. Although many factors may influence the outcome of an event, it is reasonable to maintain a single criterion for classification of severity for the purposes of guiding contingency planning. If additional epidemiologic characteristics become well established during the course of the next pandemic through collection and analysis of surveillance data, then the State may develop a subset of scenarios, depending upon, for example, age specific mortality rates.

Table 1 provides a categorization of pandemic severity by case fatality ratio, the key measurement in determining the Pandemic Severity Index, and excess mortality rate. In addition, Table 1 displays ranges of illness rates with potential numbers of U.S. deaths per category, with recent U.S. pandemic experience and U.S. seasonal influenza to provide historical context.

**Table 1: Pandemic Severity Index by Epidemiological Characteristics**

| Characteristics | Pandemic Severity Index (PSI) | | | | |
|---|---|---|---|---|---|
| | Category 1 | Category 2 | Category 3 | Category 4 | Category 5 |
| Case Fatality Ratio (percentage) | <0.1 | 0.1-<0.5 | 0.5-<1.0 | 1.0-<2.0 | ≥2.0 |
| Excess Death Rate (per 100,000) | <30 | 30-<150 | 150-<300 | 300-<600 | ≥600 |
| Illness Rate (% of population) | 20-40 | 20-40 | 20-40 | 20-40 | 20-40 |
| Potential Number of Deaths based on 2006 U.S. population) | <90,000 | 90,000-<450,000 | 450,000-<900,000 | 9000,000-<1.8 million | ≥1.8 million |
| 20th Century U.S. Experience | Seasonal Influenza (Illness rate 5-20%) | 1957, 1968 | None | None | 1918 Pandemic |

## Pandemic Intervals & Triggers

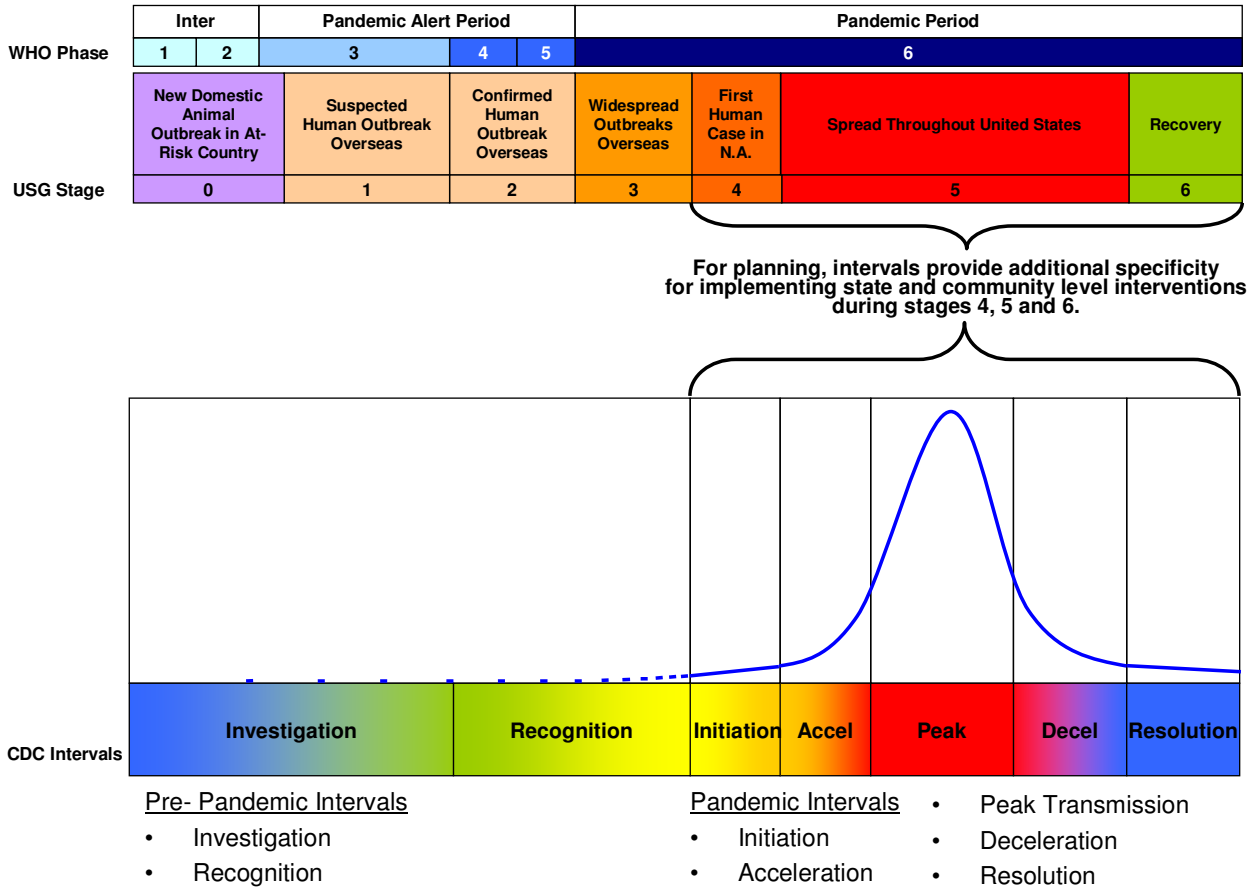
Typically, epidemic curves are used to monitor an outbreak as it is occurring or to describe the outbreak retrospectively. Specifically, they are useful for noting the possible effects of interventions; graphically showing when they are or were implemented relative to the rise and fall of the epidemic. Model epidemic or pandemic curves can also be used to describe likely events over time. These hypothetical models may be particularly valuable prospectively for anticipating conditions and identifying the key actions that could be taken at certain points in time to alter the epidemic or pandemic curve. Classic epidemic curves have been described in the literature as having a: growth phase, hyper-endemic phase, decline, endemic or equilibrium phase, and potentially an elimination phase.

For the purposes of pandemic preparedness, Arizona will use the intervals to describe the progression of the pandemic within communities in the State to help provide a more granular framework for defining when to respond with various interventions during U.S. Government stages 4, 5 and 6 (see Figure 2).

While it is difficult to forecast the duration of a pandemic, it is expected that there will be definable periods between when the pandemic begins, when transmission is established and peaks, when resolution is achieved, and when subsequent waves begin. While there will be one epidemic curve for the United States, the larger curve is made up of many smaller curves that occur on a community by community basis. Therefore, the intervals serve as additional points of reference within the phases and stages to provide a common orientation and better epidemiologic understanding of what is taking place. The intervals can assist in identifying when to intervene in these affected communities and are also a valuable means for communicating the status of the pandemic by quantifying different levels of disease, and linking them with triggers for interventions.

The intervals are designed to inform and complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies. The PSI guides the range of interventions to consider and/or implement given the epidemiological characteristics of the pandemic. The intervals are more closely aligned with triggers to indicate *when* to act, while the PSI is used to indicate *how* to act.

**Figure 2: Periods, Phases, Stages, and Intervals**




**Definitions of the Pandemic Intervals:**

The term "Affected" indicates that Arizona has met the definition for the interval. "Unaffected" means that Arizona has not met the definition for the interval at a time when other states have met the definition.

Investigation Interval – Investigation of Novel Influenza Cases: This pre-pandemic interval represents the time period when sporadic cases of novel influenza may be occurring overseas or within the United States. During this interval, public health authorities will use routine surveillance and epidemiologic investigations to identify human cases of novel influenza and assess the potential for the strain to cause significant disease in humans. Investigations of animal outbreaks also will be conducted to determine any human health implications. During this interval, pandemic preparedness efforts should be developed and strengthened. Case-based control measures (i.e., antiviral treatment and isolation of cases and antiviral prophylaxis of contacts) are the primary public health strategy for responding to cases of novel influenza infection.

Affected – Arizona has a sporadic case of novel influenza that is detected/confirmed.

- Voluntarily isolate and treat human cases
- Voluntarily quarantine if human-to-human transmission is suspected, monitor, and provide chemoprophylaxis to contacts
- Assess case contacts to determine human to human transmission and risk factors for infection

- Share information with animal and human health officials and other stakeholders, including reporting of cases according to the Nationally Notifiable Diseases Surveillance System and sharing virus samples
- Disseminate risk communication messages

Unaffected – Arizona is not currently investigating novel influenza cases.
- Continue to maintain State surveillance
- Continue to build State and local countermeasures stockpile
- Continue to develop and promote community mitigation preparedness activities, including plans and exercises
- Continue refining and testing healthcare surge plans

Recognition Interval – Recognition of Efficient and Sustained Transmission: This interval occurs when clusters of cases of novel influenza virus in humans are identified and there is confirmation of sustained and efficient human-to-human transmission indicating that a pandemic strain has emerged overseas or within the United States. During the recognition interval, public health officials in the affected country and community will attempt to contain the outbreak and limit the potential for further spread in the original community. Case-based control measures, including isolation and treatment of cases and voluntary quarantine of contacts, will be the primary public health strategy to contain the spread of infection. However, the addition of rapid implementation of community-wide antiviral prophylaxis may be attempted to fully contain an emerging pandemic.

Affected – Arizona has human to human transmission of a novel influenza virus, infection is occurring and the transmission of the virus has an efficiency and sustainability that indicates it has potential to cause a pandemic. This represents the detection of a potential pandemic in the U.S. before recognition elsewhere in the world.
- Continue/initiate actions as above (Investigation)
- Implement case-based investigation and containment
- Implement voluntary contact quarantine and chemoprophylaxis
- Confirm all suspect cases at public health laboratory
- Consider rapid containment of emerging pandemic influenza
- Report cases according to Nationally Notifiable Diseases Surveillance System
- Conduct enhanced pandemic surveillance
- Prepare to receive SNS countermeasures
- Disseminate risk communication messages, including when to seek care and how to care for ill at home
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Unaffected – Arizona has not met the criteria above. This may represent that recognition of a potential pandemic is occurring in another state, or is occurring outside the United States.
- Continue/initiate actions as above (Investigation)
- Prepare for investigation and response
- Conduct enhanced pandemic surveillance
- Prepare to receive SNS countermeasures
- Disseminate risk communication messages
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Initiation Interval – Initiation of the Pandemic Wave: This interval begins with the identification and laboratory-confirmation of the first human case due to pandemic influenza virus in the United States. If the United States is the first country to recognize the emerging pandemic strain, then the "Recognition" and "Initiation" intervals are the same for affected states. As this interval progresses, continued implementation

of case-based control measures (i.e., isolation and treatment of cases, voluntary prophylaxis and quarantine of contacts) will be important, along with enhanced surveillance for detecting potential pandemic cases to determine when community mitigation interventions will be implemented.

Affected – Arizona has at least one laboratory-confirmed pandemic case.

- Continue/initiate actions as above (Recognition)
- Declare Community Mitigation Standby if PSI Category 1 to 3, declare Alert if PSI Category is 4 or 5
- Continue enhanced State and local surveillance
- Implement (pre-pandemic) vaccination campaigns if (pre-pandemic) vaccine is available
- Offer mental health services to health care workers**.**

Unaffected – Arizona has no laboratory-confirmed pandemic cases.

- Continue/initiate actions as above (Recognition)
- Declare Community Mitigation Standby if PSI Category 4 or 5
- Prepare for investigation and response
- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy State/local caches
- Prepare to transition into emergency operations

Acceleration Interval – Acceleration of the Pandemic Wave: This interval begins in a State when public health officials have identified that containment efforts have not succeeded, onward transmission is occurring, or there are two or more laboratory-confirmed cases in the State that are not epidemiologically linked to any previous case. It will be important to rapidly initiate community mitigation activities such as school dismissal and childcare closures, social distancing, and the efficient management of public health resources. Isolation and treatment of cases along with voluntary quarantine of contacts should continue as a key mitigation measure. Historical analyses and mathematical modeling indicate that early institution of combined, concurrent community mitigation measures may maximize reduction of disease transmission (and subsequent mortality) in the affected areas.

Affected – Arizona has two or more laboratory-confirmed pandemic cases in a state that are not epidemiologically linked to any previous case; or, has increasing numbers of cases that exceed resources to provide case-based control measures

- Continue/initiate actions as above (Initiation)
- Activate community mitigation interventions for affected communities
- Transition from case-based containment/contact chemoprophylaxis to community interventions
- Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring
- Begin pre-shift healthcare worker physical and mental health wellness screening
- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events
- Monitor effectiveness of community mitigation activities

Unaffected – Arizona has not met the criteria above.

- Continue/initiate actions as above (Initiation)
- Prepare for investigation and response
- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy State/local caches
- Prepare to transition into emergency operations

- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events

Peak/Established Transmission Interval – Transmission is Established and Peak of the Pandemic Wave: This interval encompasses the time period when there is extensive transmission in the community and the State has reached its greatest number of newly identified cases. The ability to provide treatment when the healthcare system is overburdened will be particularly challenging. To reduce the societal effects of the pandemic, available resources must be optimized to maintain the critical infrastructure and key resources in the face of widespread disease.

Affected – Arizona has 1) >10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain during a seven day period, or, 2) "regional" pandemic influenza activity is reported by the State Epidemiologist using CDC-defined criteria, or, 3) the healthcare system surge capacity has been exceeded.

- Continue/initiate actions as above (Acceleration)
- Manage health care surge
- Maintain critical infrastructure and key resources
- Laboratory confirmation of only a sample of cases as required for virologic surveillance
- Implement surveillance primarily for mortality and syndromic disease

Unaffected – As transmission increases in the U.S., states are likely to be in different intervals. Thus, Arizona should anticipate the actions needed for subsequent intervals and plan accordingly.

Deceleration Interval – Deceleration of the Pandemic Wave: During this interval, it is evident that the rates of pandemic infection are declining. The decline provides an opportunity to begin planning for appropriate suspension of community mitigation activities and recovery. State health officials may choose to rescind community mitigation intervention measures in selected regions within their jurisdiction, as appropriate; however mathematical models suggest that cessation of community mitigation measures are most effective when new cases are not occurring or occur very infrequently.

Affected – Arizona has <10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain for at least two consecutive weeks, or, the healthcare system capacity is below surge capacity.

- Continue/initiate actions as above (Peak/Established Transmission)
- Assess, plan for, and implement targeted cessation of community mitigation measures if appropriate
- Transition surveillance from syndromic to case-based monitoring and confirmation
- Initiate targeted cessation of surge capacity strategies
- Maintain aggressive infection control measures in the community

Resolution Interval – Resolution of the Pandemic Wave: In this interval, pandemic cases are occurring only sporadically. The primary actions to be taken during this interval include discontinuing all community mitigation interventions, facilitating the recovery of the public health and healthcare infrastructure, resuming enhanced surveillance protocols to detect possible subsequent waves, and preparing for next waves of infection should they occur.

Affected – Arizona has active virologic surveillance that detects pandemic cases occurring sporadically.

- Continue/initiate actions as above (Deceleration)
- Rescind community mitigation interventions
- Continue case confirmation of selected cases to verify resolution of pandemic wave
- Resume enhanced virologic surveillance to detect emergence of increased transmission.

- Prepare for possible second wave
- Continue to promote community mitigation preparedness activities on standby for second wave
- Conduct after-action review for lessons learned
- Replenish stockpiles/caches if possible

From a pre-pandemic planning perspective, the steps between recognition of a pandemic threat and the decision to activate a response are critical to successful implementation. Thus, a key component is the development of scenario-specific contingency plans for pandemic response that identify key personnel, critical resources, and processes. To emphasize the importance of this concept, this CDC guidance introduces the terminology of *Alert, Standby,* and *Activate*, which reflect key steps in escalation of the response action.

- Alert: Includes notification of critical systems and personnel of their impending activation.
- Standby: Includes initiation of decision-making processes for imminent activation, including mobilization of resources and personnel.
- Activate: Refers to implementation of the specified pandemic mitigation measures.

The speed of transmission may drive the amount of time decision-makers are allotted in each mode, as does the amount of time it takes to fully implement the intervention once a decision is made to activate. These triggers for implementation of NPIs will be most useful early in a pandemic and are summarized in Table 2.

**Table 2: Triggers for Implementation of Mitigation Strategy by Pandemic Severity Index and WHO/U.S. Stages**

| Pandemic Severity Index | WHO Phase 6, U.S. Government Stage 3 | WHO Phase 6, U.S. Government Stage 4 & First Human Case in U.S. | WHO Phase 6, U.S. Government Stage 5 & First Laboratory Confirmed Cluster in U.S. State or Region |
|---|---|---|---|
| 1 | Alert | Standby | Activate |
| 2 and 3 | Alert | Standby | Activate |
| 4 and 5 | Standby | Standby/Activate | Activate |

The decision to declare the above triggers will be made through guidance from CDC and reporting of laboratory confirmed pandemic influenza in Arizona or the surrounding regions by the Laboratory Response Network and State Public Health Laboratories. For the most severe pandemics (Categories 4 and 5), *Alert* is implemented during WHO Phase5/U.S. Government Stage 2 (confirmed human outbreak overseas), and *standby* is initiated during WHO Phase 6/U.S. Government Stage 3 (widespread human outbreak in multiple locations overseas). *Standby* is maintained through Stage 4 (first human case in North America), with the exception of the State or region in which a laboratory confirmed human pandemic influenza case cluster with evidence of community transmission is identified. The recommendation for that State to *activate* the appropriate NPIs is defined in Table 3 when identification of a cluster and community transmission is made. Other States or regions *activate* appropriate interventions when they identify laboratory confirmed human pandemic influenza case clusters with evidence of community transmission in their jurisdictions.

Determining the likely time frames for progression through *Alert, Standby,* and *Activate* postures is difficult. Predicting this progression would involve knowing the speed at which the pandemic is progressing and the segments of the population most likely to have severe illness. Therefore, from a pre-pandemic planning perspective and given the potential for exponential spread of pandemic disease, it is prudent to plan for a process of rapid implementation of the recommended measures.

PANDEMIC INFLUENZA

# WHO Global Pandemic Phases and the Stages for Federal Government Response

| WHO Phases | | Federal Government Response Stages | |
|---|---|---|---|
| **INTER-PANDEMIC PERIOD** | | | |
| 1 | No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human disease is considered to be low. | 0 | New domestic animal outbreak in at-risk country |
| 2 | No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease. | | |
| **PANDEMIC ALERT PERIOD** | | | |
| 3 | Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact. | 0 | New domestic animal outbreak in at-risk country |
| | | 1 | Suspected human outbreak overseas |
| 4 | Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans. | 2 | Confirmed human outbreak overseas |
| 5 | Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk). | | |
| **PANDEMIC PERIOD** | | | |
| 6 | Pandemic phase: increased and sustained transmission in general population. | 3 | Widespread human outbreaks in multiple locations overseas |
| | | 4 | First human case in North America |
| | | 5 | Spread throughout United States |
| | | 6 | Recovery and preparation for subsequent waves |

**Table 4: WHO Influenza Stages and Strategies**

| Influenza Pandemic – Phases and Strategic Actions | | | | |
|---|---|---|---|---|
| | **Phase** | **Transmission** | **Objectives** | **Strategic Actions** |
| Inter-pandemic period (planning and preparedness | 1 | Influenza virus subtype in animals only (risk to humans low) | Strengthen pandemic preparedness at all levels | • Prepare pandemic preparedness plan<br>• Establish surveillance in animal<br>• Establish human influenza surveillance<br>• Establish collaboration between human and animal sectors |
| | 2 | Influenza virus subtype in animals only (risk to humans substantial) | Minimize the risk of transmission to humans; detect and report rapidly if occurs | |
| Pandemic alert (emergency and pre-emptive response) | 3 | Human infection (transmission in close contacts only) | Ensure rapid characterization of new virus; detect, notify, and respond to additional cases | • Enhance animal surveillance and aggressive response to animal outbreaks<br>• Strengthen human surveillance<br>• Stockpile antiviral, PPE, etc.<br>• Strengthen collaboration between different sectors & WHO/OIE/FAO<br>• Develop and implement risk communication strategy<br>• Prepare health and essential service contingency plan |
| | 4 | Limited human-to-human spread; small clusters. <25 cases lasting <2 weeks | Contain the virus or delay its spread | |
| | 5 | Localized human-to-human spread; larger clusters. 25-50 cases over 2-4 weeks | Maximum efforts to contain or delay the spread | |
| Pandemic (minimizing impact) | 6 | Widespread in general population | Minimize the impact of the pandemic | • Implement health and essential services contingency plan<br>• Risk communication<br>• Treat cases and contacts with antivirals, if available<br>• Social distancing: close schools, ban gatherings |

Planning for use of these nonpharmaceutical interventions is based on the Pandemic Severity Index, which may allow more appropriate matching of the interventions to the magnitude of the pandemic. These recommendations are summarized in Table 3. All interventions should be combined with infection control practices, such as good hand hygiene and cough etiquette. In addition, the use of personal protective equipment, such as surgical masks or respirators, may be appropriate in some cases and guidance on community face mask and respirator use will be forthcoming from CDC or ADHS.

For Category 4 or Category 5 pandemics, a planning recommendation is made for use of all listed NPIs. In addition, planning for dismissal of students from schools and school-based activities and closure of childcare programs, in combination with means to reduce out-of-school social contacts and community

mixing of these children, should encompass up to 12 weeks of intervention in the most severe scenarios. This approach to pre-pandemic planning will provide a baseline of readiness for community response even if the actual response is shorter. Recommendations for use of these measures for pandemics of lesser severity may include a subset of these same interventions and, possibly, suggestions that they be used for shorter durations, as in the case of the social distancing measures for children.

For Category 2 or Category 3 pandemics, planning for voluntary isolation of ill persons is recommended whereas other measures (voluntary quarantine of household contacts, social distancing measures for children and adults) are to be implemented only if local decision-makers have determined that characteristics of the pandemic in their community warrant these additional mitigation measures. However, within these categories, pre-pandemic planning for social distancing measures for children should be undertaken with a focus on a duration of 4 weeks or less, distinct from the longer timeframe recommended for pandemics with greater Pandemic Severity Index. For Category 1 pandemics, only voluntary isolation of ill persons is recommended on a community-wide basis, however ADHS may still choose to tailor a response to Category 1-3 pandemics differently by applying NPIs on the basis of local epidemiological parameters, risk assessment, availability of countermeasures, and consideration of local healthcare surge capacity in the State. Thus, from a pre-pandemic planning perspective for both assessing local and public health capacity and healthcare surge, delivering countermeasures, and implementing these measures in full and in combination will be assessed as a pandemic unfolds.

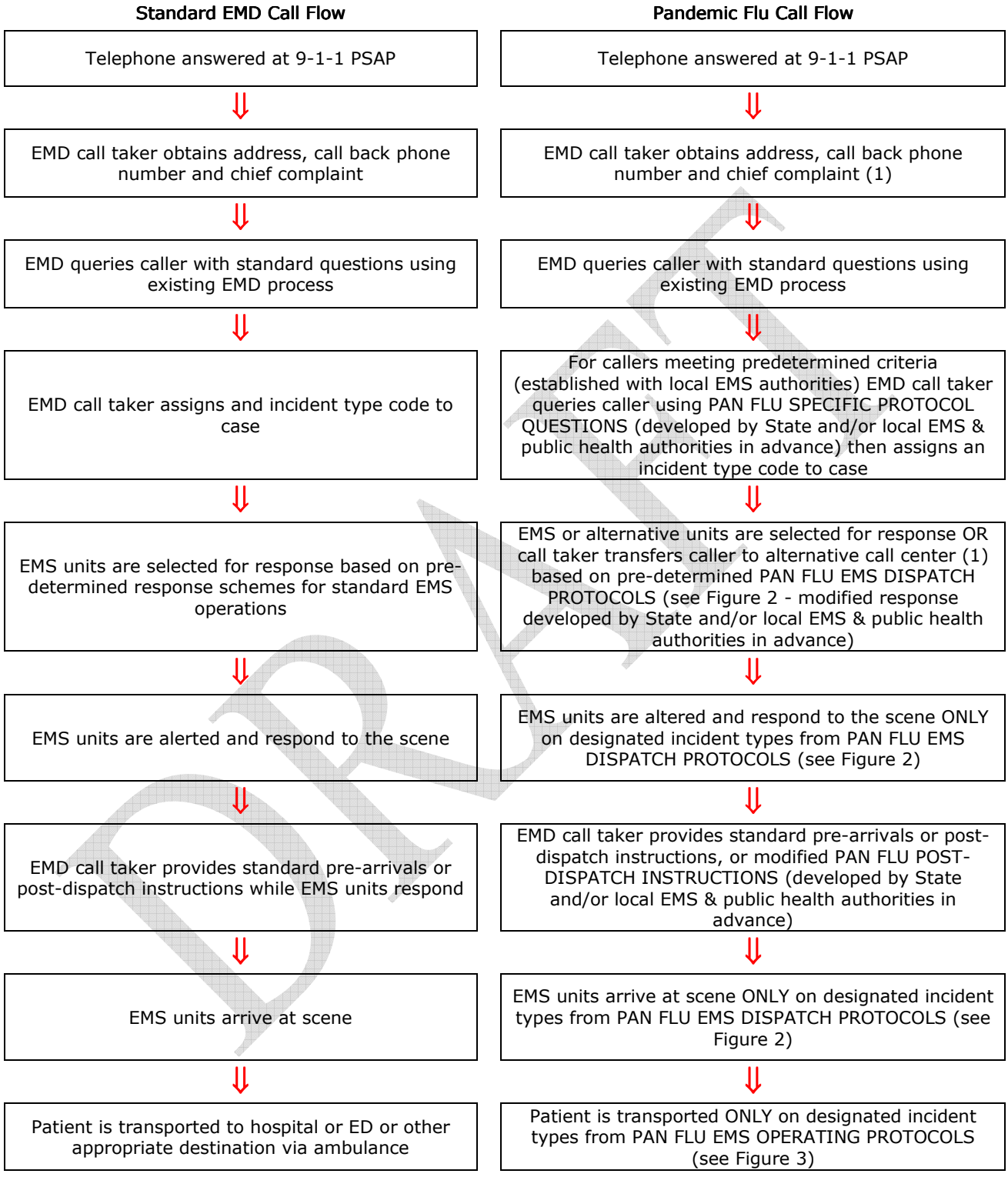
**Table 3: Summary of the Arizona Community Mitigation Strategy by Pandemic Severity**

| Interventions by Setting | Pandemic Severity Index | | |
|---|---|---|---|
| | 1 | 2 & 3 | 4 & 5 |
| **Home: Voluntary isolation** of ill at home (adults and children); combined with the use of antiviral treatments as available and indicated | **Recommend** | **Recommend** | **Recommend** |
| **Home: Voluntary quarantine** of household members in homes with ill persons (adults & children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient | **Generally not recommended** | **Consider** | **Recommend** |
| **School: Child social distancing** | | | |
| • dismissal of students from schools and school based activities and closure of child care programs | **Generally not recommended** | **Consider: ≤ 4 weeks** | **Recommend: ≤ 12 weeks** |
| • reduce of-of-school social contacts and community mixing | **Generally not recommended** | **Consider: ≤ 4 weeks** | **Recommend: ≤ 12 weeks** |
| **Workplace/Community: Adult Social Distancing** | | | |
| • decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings) | **Generally not recommended** | **Consider** | **Recommend** |
| • increase distance between persons (e.g., reduce density in public transit, workplace) | **Generally not recommended** | **Consider** | **Recommend** |
| • modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theater performances) | **Generally not recommended** | **Consider** | **Recommend** |
| • modify work place schedules and practices (e.g., tele-work, stagger shifts) | **Generally not recommended** | **Consider** | **Recommend** |

**APPENDIX 3**

Dispatch & Pre-Hospital Recommendations

## Figure 1: Sample Call Flow for Standard EMD Calls vs. Pandemic Flu Calls




(1) At different points in the Pan Flu Call Flow Process, and EMD call taker may transpire a call to an alternative call center (e.g. poison control, nurse advice lines, etc.) based on pre-determined Pan Flu EMS Dispatch Protocols. PSAPs should also plan to accept incoming calls from alternative call centers. A community's mitigation strategy may include call takers instruction callers on social distancing, home care, or other care options.

## Figure 2: Recommended Pandemic Influenza EMS Dispatch Recommendations - DRAFT

### Consider the following when developing Arizona Protocols:

1. Increased Demand for Services
2. Reduction of EMS/Dispatch Workforce
3. Healthcare Facility Bed Availability

| **Dispatch Priority Level** should match vendor or call center based dispatch protocol/tiered algorithm | **Response** Standard Operating Mode | **Pandemic Severity Index Category 1** | **Pandemic Severity Index Category 2-3** | **Pandemic Severity Index Category 4-5** |
|---|---|---|---|---|
| **Classification 1** Confirmed/suspected cardiac arrest (not breathing, unresponsive per 911 call) | Closest AED unit; closest 1st responder; closest ALS ambulance (HOT) | Closest AED unit; closest 1st responder; closest ALS ambulance if available (HOT) | Closest AED unit (HOT); closest 1st responder if available (HOT) | Closest AED unit if available (HOT) |
| **Classification 2** Life threatening emergency/potentially life threatening/ confirmed unstable patient(s) | Closest 1st responder; closest ALS ambulance (HOT) | Closest 1st responder; closest ALS ambulance if available; BLS ambulance if ALS unit is not available (HOT) | Closest 1st responder; closest ambulance available (ALS or BLS) (HOT) | Closest 1st responder if available.; closest ambulance available (ALS or BLS) (HOT) |
| **Classification 3** Non-critical/currently stable patient(s) requiring ALS assessment | Closest ALS ambulance (COLD) | Closest available ambulance (ALS or BLS) (COLD) | Closest ambulance available (ALS or BLS) (COLD) | Referral to alternate call center or advise self-transport to alternate care site (ACS) |
| **Classification 4** BLS assessment for unknown/possibly dangerous scenes | Closest 1st responder (HOT); closest BLS ambulance (COLD) | Closest 1st responder (HOT); closest BLS ambulance if available (COLD) | Closest 1st responder (HOT) | Closest 1st responder if available; or closest stand-in responder unit |
| **Classification 5** BLS treatment | BLS ambulance (COLD) | BLS ambulance (COLD) | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) |
| **Classification 6** Non-ambulance care | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) | Alternate call center (such as poison control, nurse advice line, health care call center, etc.) |

**Hot** An EMS vehicle involved in an emergency response or transport while using appropriate audible and visual emergency signaling equipment (i.e., lights and siren) in accordance with statutes.

**Cold** An EMS vehicle involved in a non-emergency response or transport while not using emergency signaling equipment (i.e., no lights and siren).

## Figure 3: Recommended Pandemic Influenza EMS Operating Protocols - DRAFT

### Consider the following when developing Arizona Protocols:

4. Increased Demand for Services
5. Reduction of EMS/Dispatch Workforce
6. Healthcare Facility Bed Availability

| Sample Protocol | Pandemic Severity Index Category 1 | Pandemic Severity Index Category 2-3 | Pandemic Severity Index Category 4-5 |
|---|---|---|---|
| **Triage** to occur at 9-1-1 call center & on scene | Determine whether to implement triage and treatment protocols that differentiate between non-infected and potentially infected patients based on CDC or ADHS case definition* | Triage would focus on identifying and reserving immediate treatment for individuals who have a critical need for treatment and are likely to survive. The goal would be to allocate resources in order to maximize the number of lives saved | Using screening algorithm to ensure only severe get response |
| **Treatment** | Ambulatory patients will be redirected to alternate care sites within or outside of the hospital | Treatment protocols may be modified to enable and encourage patients to receive care at home<br><br>Consider provision of antiviral prophylaxis if effective, feasible, and quantities sufficient | Certain lifesaving efforts may have to be discontinued<br><br>Provision of antiviral prophylaxis if effective, feasible, and quantities sufficient |
| **Equipment** | Prudent use of equipment<br><br>Implementation of strict PPE/infection control protocols for patents meeting case definition during response phase of 9-1-1 call | Selective criteria in place for priority use<br><br>Some scarce and valuable equipment, such as ventilators, may not be used without staff available who are trained to operate them | Strict criteria in place for equipment use<br><br>Some scare and valuable equipment, such as ventilators, may not be used without staff available who are trained to operate them |
| **Transportation** | Non-urgent and ambulatory victims may have to walk or self-transport to the nearest facility or hospital | Emergency medical services may transport victims to specific quarantine or isolation locations and other alternate care sites | Only severe cases transported via ambulance |
| **Destination** | Alternate care sites will be used for triage and distribution of vaccines or other prophylactic measures, as well as for quarantine, minimum care, and hospice care | Ambulatory and some non-ambulatory patients may be diverted to alternate care sites 9including non-medical space, such as cafeterias within hospitals, or other non-medical facilities) | Emergency department access may be reserved for immediate-need patients |

*Case definition for presumptive/definitive diagnosis includes fever of at least 101° F along with either cough or sore throat. A specific clinical case definition for pandemic influenza will be developed when more is known about the circulating pandemic flu virus (any unique symptoms or epidemiological links such as geographic or contact with chickens, etc.).

**Figure 4: Pandemic Influenza Specific Questionnaire**

**To be used for surveillance and early outbreak detection and situational awareness (who-where is data sent-state lab? How is it collected-database, fax paper, etc.?**

# Pandemic Influenza Assessment Tool

| | |
|---|---|
| **Date:** | **Dispatch Center:** |
| **Time:** | **County:** |
| **Call Taker:** | **Town, Zip:** |

***Please circle appropriate response(s), save and forward this form to your local County Health Department***

| Have you traveled outside of the US recently? | When: | Where: |
|---|---|---|

***Do you have any of the following?***
- Short of breath/trouble breathing while resting or doing very little?
- Extreme pain or pressure in the chest or stomach/abdomen area?
- Vomiting that is sever or does not stop?
- Confusion or disorientation?

⇒ **YES** ⇒ **Go to the Emergency Department or Dispatch EMS**

⇓ **NO** ⇓

Is your temperature 100.4 F or higher?

⇒ **YES** ⇒

***Do you have any of the flowing?***
- Chronic heart, lung, kidney or liver disease requiring regular medical care
- An illness like diabetes or cancer, which is being treated, or disease or treatments that affect the immune system, such HIV/AIDS
- Are you pregnant?

⇒ **YES** ⇒ Contact your primary care provider or specialist for urgent assessment

⇓ **NO** ⇓

***Do you have any of the following?***
- Chronic heart, lung, kidney or liver disease requiring regular medical care?
- An illness like diabetes or cancer, which is being treated, or disease or treatments that affect the immune system, such HIV/AIDS

⇒ **YES** ⇒

***Do you have a cough and any of the following?***
- Aching Muscles
- Headache
- Extreme tiredness
- Sore Throat
- Cough

⇒ **YES** ⇒ ***You may have Influenza:***

Call your primary care provider or County Health Dept.

⇓ **NO** ⇓

***Do you have a cough and any of the following?***
- Aching Muscles
- Headache
- Extreme tiredness
- Sore Throat
- Cough

⇒ **YES** ⇒

*You may have Influenza*:

Self care or call your primary care provider or County Health Dept.

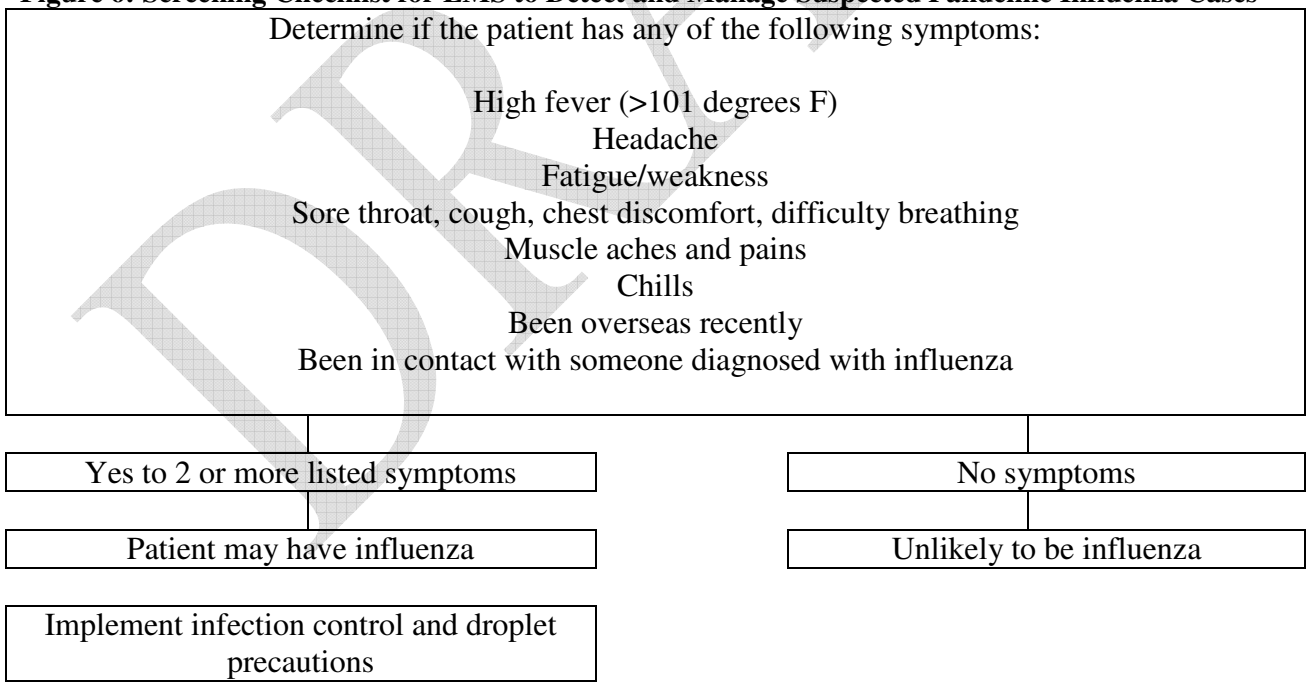
⇓ **NO** ⇓

If you have other symptoms and/or are concerned, call your primary care provide or your County Health Dept.

**Figure 5: Sample Pandemic Influenza EMS Pre-Arrival Guidance**

| | |
|---|---|
| **1.** | Advise caller that no ambulance transport is available or may be delayed because requests for assistance have exceeded system overcapacity<br>➢ Have the patient lie or sit in a comfortable position<br>➢ Monitor breathing<br>➢ Do not give the patient anything to eat or drink<br>➢ Keep patient calm<br>➢ Help is on the way |
| **2.** | As may be appropriate to support community mitigation strategies, provide instructions for isolation of ill patients and quarantine of exposed family members (don't send children to school, don't go shopping, etc.) |
| **3.** | Advise caller of local Alternate Care Sites and direct them to drive themselves there. |
| **4.** | Utilize secondary triage when available |
| **5.** | Advise caller of preparatory steps for next wave |

**Figure 6: Screening Checklist for EMS to Detect and Manage Suspected Pandemic Influenza Cases**



# Figure 7: Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients with Confirmed or Suspected Swine-Origin Influenza A (H1N1) Infection

Page last updated April 29, 9:15 PM ET

*This document provides interim guidance for 9-1-1 Public Safety Answering Points (PSAPs), the EMS system and medical first-responders and will be updated as needed at http://www.cdc.gov/swineflu/guidance/. The information contained in this document is intended to complement existing guidance for healthcare personnel, "Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting" at http://www.cdc.gov/swineflu/guidelines_infection_control.htm.*

## Background

As a component of the Nation's critical infrastructure, emergency medical services (along with other emergency services) play a vital role in responding to requests for assistance, triaging patients, and providing emergency treatment to influenza patients. However, unlike patient care in the controlled environment of a fixed medical facility, prehospital EMS patient care is provided in an uncontrolled environment, often confined to a very small space, and frequently requires rapid medical decision-making, and interventions with limited information. EMS personnel are frequently unable to determine the patient history before having to administer emergency care.

## Interim Recommendations

Coordination among PSAPs, the EMS system, healthcare facilities (e.g. emergency departments), and the public health system is important for a coordinated response to swine-origin influenza A (H1N1). Each 9-1-1 and EMS system should seek the involvement of an EMS medical director to provide appropriate medical oversight. Given the uncertainty of the disease, its treatment, and its progression, the ongoing role of EMS medical directors is critically important. The guidance provided in this document is based on current knowledge of swine-origin influenza A (H1N1).

The U.S. Department of Transportation's *EMS Pandemic Influenza Guidelines for Statewide Adoption* and *Preparing for Pandemic Influenza: Recommendations for Protocol Development and 9-1-1 Personnel and Public Safety Answering Points (PSAPs)* are available online at www.ems.gov (Click on Pandemic News). State and local EMS agencies should review these documents for additional information. For instance, Guideline 6.1 addresses protection of the EMS and 9-1-1 workers and their families while Guideline 6.2 addresses vaccines and antiviral medications for EMS personnel. Also, EMS Agencies should work with their occupational health programs and/or local public health/public safety agencies to make sure that long term personal protective equipment (PPE) needs and antiviral medication needs are addressed.

## Infectious Period

Persons with swine-origin influenza A (H1N1) virus infection should be considered potentially infectious from one day before to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might potentially be contagious for longer periods.

Non-hospitalized ill persons who are a confirmed or suspected case of swine-origin influenza A (H1N1) virus infection are recommended to stay at home (voluntary isolation) for at least the first 7 days after checking with their health care provider about any special care they might need if they are pregnant or have a health condition such as diabetes, heart disease, asthma, or emphysema. CDC guidance on care of patients at home can be found at http://www.cdc.gov/swineflu/guidance_homecare.htm )

## Case Definitions for Infection with Swine-origin Influenza A (H1N1) Virus (S-OIV)

A ***confirmed case*** of S-OIV infection is defined as a person with an acute febrile respiratory illness with laboratory confirmed S-OIV infection at CDC by one or more of the following tests:

1. real-time RT-PCR
2. viral culture

A ***probable case*** of S-OIV infection is defined as a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR

A ***suspected case*** of S-OIV infection is defined as a person with acute febrile respiratory illness with onset

- within 7 days of close contact with a person who is a confirmed case of S-OIV infection, or
- within 7 days of travel to community either within the United States or internationally where there are one or more confirmed cases of S-OIV infection, or
- resides in a community where there are one or more confirmed cases of S-OIV infection.

**Recommendations for 9-1-1 Public Safety Answering Points (PSAP)**

It is important for the PSAPs to question callers to ascertain if there is anyone at the incident location who is possibly afflicted by the swine-origin influenza A (H1N1) virus, to communicate the possible risk to EMS personnel prior to arrival, and to assign the appropriate EMS resources. PSAPs should review existing medical dispatch procedures and coordinate any modifications with their EMS medical director and in coordination with their local department of public health.

Interim recommendations:

- PSAP call takers should screen all callers for any symptoms of acute febrile respiratory illness. Callers should be asked if they, or someone at the incident location, has had nasal congestion, cough, fever or other flu-like symptoms.
    - If the PSAP call taker suspects a caller is noting symptoms of acute febrile respiratory febrile illness, they should make sure any first responders and EMS personnel are aware of the potential for "acute febrile respiratory illness" before the responders arrive on scene.

**Recommendations for EMS and Medical First Responder Personnel Including Firefighter and Law Enforcement First Responders**

For purposes of this section, "EMS providers" means prehospital EMS, Law Enforcement and Fire Service First Responders." EMS providers' practice should be based on the most up-to-date swine-origin influenza clinical recommendations and information from appropriate public health authorities and EMS medical direction.

**Patient assessment:**
**Interim recommendations:**

If there HAS NOT been swine-origin influenza reported in the geographic area (http://www.cdc.gov/swineflu/), EMS providers should assess all patients as follows:

- Step 1: EMS personnel should stay more than 6 feet away from patients and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of swine-origin influenza.
- Step 2: Assess all patients for symptoms of acute febrile respiratory illness (fever plus one or more of the following: nasal congestion/ rhinorrhea, sore throat, or cough).
    - If no acute febrile respiratory illness, proceed with normal EMS care.
    - If symptoms of acute febrile respiratory illness, then assess all patients for travel to a geographic area with confirmed cases of swine-origin influenza within the last 7 days or close contact with someone with travel to these areas.
        - If travel exposure, don appropriate PPE for suspected case of swine-origin influenza.
        - If no travel exposure, place a standard surgical mask on the patient (if tolerated) and use appropriate PPE for cases of acute febrile respiratory illness without suspicion of swine-origin influenza (as described in PPE section).

If the CDC confirmed swine-origin influenza in the geographic area (http://www.cdc.gov/swineflu/ )

- Step 1: Address scene safety:
    - If PSAP advises potential for acute febrile respiratory illness symptoms on scene, EMS personnel should don PPE for suspected cases of swine-origin influenza prior to entering scene.
    - If PSAP has not identified individuals with symptoms of acute febrile respiratory illness on scene, EMS personnel should stay more than 6 feet away from patient and bystanders with symptoms and exercise appropriate routine respiratory droplet precautions while assessing all patients for suspected cases of swine-origin influenza.
- Step 2: Assess all patients for symptoms of acute febrile respiratory illness (fever plus one or more of the following: nasal congestion/ rhinorrhea, sore throat, or cough).
    - If no symptoms of acute febrile respiratory illness, provide routine EMS care.
    - If symptoms of acute febrile respiratory illness, don appropriate PPE for suspected case of swine-origin influenza if not already on.

**Personal protective equipment (PPE):**
Interim recommendations:

- When treating a patient with a suspected case of swine-origin influenza as defined above, the following PPE should be worn:
    - Fit-tested disposable N95 respirator and eye protection (e.g., goggles; eye shield), disposable non-sterile gloves, and gown, when coming into close contact with the patient.
- When treating a patient that is not a suspected case of swine-origin influenza but who has symptoms of acute febrile respiratory illness, the following precautions should be taken:
    - Place a standard surgical mask on the patient, if tolerated. If not tolerated, EMS personnel may wear a standard surgical mask.
    - Use good respiratory hygiene – use non-sterile gloves for contact with patient, patient secretions, or surfaces that may have been contaminated. Follow hand hygiene including hand washing or cleansing with alcohol based hand disinfectant after contact.
- Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

**Infection Control:**
EMS agencies should always practice basic infection control procedures including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of FDA cleared or authorized medical personal protective equipment (PPE).

Interim recommendations:

- Pending clarification of transmission patterns for this virus, EMS personnel who are in close contact with patients with suspected or confirmed swine-origin influenza A (H1N1) cases should wear a fit-tested disposable N95 respirator, disposable non-sterile gloves, eye protection (e.g., goggles; eye shields), and gown, when coming into close contact with the patient.
- All EMS personnel engaged in aerosol generating activities (e.g. endotracheal intubation, nebulizer treatment, and resuscitation involving emergency intubation or cardiac pulmonary resuscitation) should wear a fit-tested disposable N95 respirator, disposable non-sterile gloves, eye protection (e.g., goggles; eye shields), and gown, unless EMS personnel are able to rule out acute febrile respiratory illness or travel to an endemic area in the patient being treated.
- All patients with acute febrile respiratory illness should wear a surgical mask, if tolerated by the patient.

**Interfacility Transport**
EMS personnel involved in the interfacility transfer of patients with suspected or confirmed swine-origin influenza should use standard, droplet and contact precautions for all patient care activities. This should include wearing a fit-tested disposable N95 respirator, wearing disposable non-sterile gloves, eye protection (e.g., goggles, eyeshield), and gown, to prevent conjunctival exposure. If the transported patient can tolerate a facemask (e.g., a surgical mask), its use can help to minimize the spread of infectious droplets in the patient care compartment. Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

**Interim Guidance for Cleaning EMS Transport Vehicles After Transporting a Suspected or Confirmed Swine-origin Influenza Patient**

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a suspected or confirmed swine-origin influenza patient. This guidance may be modified or additional procedures may be recommended by the Centers for Disease Control and Prevention (CDC) as new information becomes available.

Routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chances of hand transfer of virus. Influenza viruses are susceptible to inactivation by a number of chemical disinfectants readily available from consumer and commercial sources.

After the patient has been removed and prior to cleaning, the air within the vehicle may be exhausted by opening the doors and windows of the vehicle while the ventilation system is running. This should be done outdoors and away

from pedestrian traffic. Routine cleaning methods should be employed throughout the vehicle and on non-disposable equipment.

For additional detailed guidance on ambulance decontamination EMS personnel may refer to "Interim Guidance for Cleaning Emergency Medical Service Transport Vehicles during an Influenza Pandemic" available at: http://www.pandemicflu.gov/plan/healthcare/cleaning_ems.html .

**EMS Transfer of Patient Care to a Healthcare Facility**

When transporting a patient with symptoms of acute febrile respiratory illness, EMS personnel should notify the receiving healthcare facility so that appropriate infection control precautions may be taken prior to patient arrival. Patients with acute febrile respiratory illness should wear a surgical mask, if tolerated. Small facemasks are available that can be worn by children, but it may be problematic for children to wear them correctly and consistently. Moreover, no facemasks (or respirators) have been cleared by the FDA specifically for use by children.

**APPENDIX 4**

Recommendations for Infection Control in Healthcare Settings

&

Interim Guidance for Cleaning Emergency Medical Service (EMS) Transport Vehicles During an Influenza Pandemic

**Figure 1: Recommendations for Infection Control in Healthcare Settings**

*The recommendations for infection control described below are generally applicable throughout the different pandemic phases. In some cases, as indicated, recommendations may be modified as the situation progresses from limited cases to widespread community illness. Basic infection control principles for preventing the spread of pandemic influenza in healthcare settings.*

The following infection control principles apply in any setting where persons with pandemic influenza might seek and receive healthcare services (e.g. hospitals, emergency departments, out-patient facilities, residential care facilities, homes):

- Limit contact between infected and non-infected persons2
    - Isolate infected persons (i.e., confine patients to a defined area as appropriate for the healthcare setting).
    - Limit contact between nonessential personnel and other persons (e.g., social visitors) and patients who are ill with pandemic influenza.
    - Promote spatial separation in common areas (i.e., sit or stand as far away as possible—at least 3 feet—from potentially infectious persons) to limit contact between symptomatic and non-symptomatic persons.
- Protect persons caring for influenza patients in healthcare settings from contact with the pandemic influenza virus. Persons who must be in contact should:
    - Wear a surgical or procedure mask3 for close contact with infectious patients.
    - Use contact and airborne precautions, including the use of N95 respirators, when appropriate [S4-IV.C].
    - Wear gloves (gown if necessary) for contact with respiratory secretions.
    - Perform hand hygiene after contact with infectious patients.
- Contain infectious respiratory secretions:
    - Instruct persons who have "flu-like" symptoms (see below) to use respiratory hygiene/cough etiquette (See Box 2).
    - Promote use of masks4 by symptomatic persons in common areas (e.g., waiting rooms in physician offices or emergency departments) or when being transported (e.g., in emergency vehicles).

**Symptoms of influenza** include fever, headache, myalgia, prostration, coryza, sore throat, and cough. Otitis media, nausea, and vomiting are also commonly reported among children. Typical influenza (or "flu-like") symptoms, such as fever, may not always be present in elderly patients, young children, patients in long-term care facilities, or persons with underlying chronic illnesses (see Supplement 5, Box 2).

***Management of infectious patients***

**Respiratory hygiene/cough etiquette**

Respiratory hygiene/cough etiquette has been promoted as a strategy to contain respiratory viruses at the source and to limit their spread in areas where infectious patients might be awaiting medical care (e.g., physician offices, emergency departments) (see S4-IV.B.2).

The impact of covering sneezes and coughs and/or placing a mask on a coughing patient on the containment of respiratory secretions or on the transmission of respiratory infections has not been systematically studied. In theory, however, any measure that limits the dispersal of respiratory droplets should reduce the opportunity for transmission. Masking may be difficult in some settings, e.g., pediatrics, in which case the emphasis will be on cough hygiene. The elements of respiratory hygiene/cough etiquette include:

- Education of healthcare facility staff, patients, and visitors on the importance of containing respiratory secretions to help prevent the transmission of influenza and other respiratory viruses

- Posted signs in languages appropriate to the populations served with instructions to patients and accompanying family members or friends to immediately report symptoms of a respiratory infection as directed
- Source control measures (e.g., covering the mouth/nose with a tissue when coughing and disposing of used tissues; using masks on the coughing person when they can be tolerated and are appropriate)
- Hand hygiene after contact with respiratory secretions, and
- Spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible.

**Droplet precautions and patient placement**

- Patients with known or suspected pandemic influenza should be placed on droplet precautions for a minimum of 5 days from the onset of symptoms. Because immunocompromised patients may shed virus for longer periods, they may be placed on droplet precautions for the duration of their illness. Healthcare personnel should wear appropriate PPE (see S4-IV.C). The placement of patients will vary depending on the healthcare setting (see setting-specific guidance).
- If the pandemic virus is associated with diarrhea, contact precautions (i.e., gowns and gloves for all patient contact) should be added.
- CDC will update these recommendations if changes occur in the anticipated pattern of transmission (www.cdc.gov/flu).

**Infection control practices for healthcare personnel**

Infection control practices for pandemic influenza are the same as for other human influenza viruses and primarily involve the application of standard and droplet precautions (Box 1) during patient care in healthcare settings (e.g., hospitals, nursing homes, outpatient offices, emergency transport vehicles). This guidance also applies to healthcare personnel going into the homes of patients. During a pandemic, conditions that could affect infection control may include shortages of antiviral drugs, decreased efficacy of the vaccine, increased virulence of the influenza strain, shortages of single-patient rooms, and shortages of personal protective equipment. These issues may necessitate changes in the standard recommended infection control practices for influenza. CDC will provide updated infection control guidance as circumstances dictate. Additional guidance is provided for family members providing home care (S4-IV.G) and for use in public settings (e.g., schools, workplace) where people with pandemic influenza may be encountered (S4-V and S4-VI).

***Personal protective equipment***

**PPE for standard and droplet precautions**

PPE is used to prevent direct contact with the pandemic influenza virus. PPE that may be used to provide care includes surgical or procedure masks, as recommended for droplet precautions, and gloves and gowns, as recommended for standard precautions (Box 1). Additional precautions may be indicated during the performance of aerosol-generating procedures (see below). Information on the selection and use of PPE is provided at www.cdc.gov/ncidod/dhqp/gl_isolation.html.

**Masks (surgical or procedure)**

- Wear a mask when entering a patient's room. A mask should be worn once and then discarded. If pandemic influenza patients are cohorted in a common area or in several rooms on a nursing unit, and multiple patients must be visited over a short time, it may be practical to wear one mask for the duration of the activity; however, other PPE (e.g., gloves, gown) must be removed between patients and hand hygiene performed.
- Change masks when they become moist.
- Do not leave masks dangling around the neck.
- Upon touching or discarding a used mask, perform hand hygiene.

**Gloves**

- A single pair of patient care gloves should be worn for contact with blood and body fluids, including during hand contact with respiratory secretions (e.g., providing oral care, handling soiled tissues). Gloves made of latex, vinyl, nitrile, or other synthetic materials are appropriate for this purpose; if possible, latex-free gloves should be available for healthcare workers who have latex allergy.
- Gloves should fit comfortably on the wearer's hands.
- Remove and dispose of gloves after use on a patient; do not wash gloves for subsequent reuse.
- Perform hand hygiene after glove removal.
- If gloves are in short supply (i.e., the demand during a pandemic could exceed the supply), priorities for glove use might need to be established. In this circumstance, reserve gloves for situations where there is a likelihood of extensive patient or environmental contact with blood or body fluids, including during suctioning.
- Use other barriers (e.g., disposable paper towels, paper napkins) when there is only limited contact with a patient's respiratory secretions (e.g., to handle used tissues). Hand hygiene should be strongly reinforced in this situation.

**Gowns**

- Wear an isolation gown, if soiling of personal clothes or uniform with a patient's blood or body fluids, including respiratory secretions, is anticipated. Most patient interactions do not necessitate the use of gowns. However, procedures such as intubation and activities that involve holding the patient close (e.g., in pediatric settings) are examples of when a gown may be needed when caring for pandemic influenza patients.
- A disposable gown made of synthetic fiber or a washable cloth gown may be used.
- Ensure that gowns are of the appropriate size to fully cover the area to be protected.
- Gowns should be worn only once and then placed in a waste or laundry receptacle, as appropriate, and hand hygiene performed.
- If gowns are in short supply (i.e., the demand during a pandemic could exceed the supply) priorities for their use may need to be established. In this circumstance, reinforcing the situations in which they are needed can reduce the volume used. Alternatively, other coverings (e.g., patient gowns) could be used. It is doubtful that disposable aprons would provide the desired protection in the circumstances where gowns are needed to prevent contact with influenza virus, and therefore should be avoided. There are no data upon which to base a recommendation for reusing an isolation gown on the same patient. To avoid possible contamination, it is prudent to limit this practice.

**Goggles or face shield**

In general, wearing goggles or a face shield for routine contact with patients with pandemic influenza is not necessary. If sprays or splatter of infectious material is likely, goggles or a face shield should be worn as recommended for standard precautions. Additional information related to the use of eye protection for infection control can be found at http://www.cdc.gov/niosh/topics/eye/eye-infectious.html.

***PPE for special circumstances***

**PPE for aerosol-generating procedures**

During procedures that may generate increased small-particle aerosols of respiratory secretions (e.g., endotracheal intubation, nebulizer treatment, bronchoscopy, suctioning), healthcare personnel should wear gloves, gown, face/eye protection, and a N95 respirator or other appropriate particulate respirator. Respirators should be used within the context of a respiratory protection program that includes fit-testing, medical clearance, and training. If possible, and when practical, use of an airborne isolation room may be considered when conducting aerosol-generating procedures.

**PPE for managing pandemic influenza with increased transmissibility**
The addition of airborne precautions, including respiratory protection (an N95 filtering face piece respirator or other appropriate particulate respirator), may be considered for strains of influenza exhibiting increased transmissibility, during initial stages of an outbreak of an emerging or novel strain of influenza, and as determined by other factors such as vaccination/immune status of personnel and availability of antivirals. As the epidemiologic characteristics of the pandemic virus are more clearly defined, CDC will provide updated infection control guidance, as needed.

**Precautions for early stages of a pandemic**
Early in a pandemic, it may not be clear that a patient with severe respiratory illness has pandemic influenza. Therefore precautions consistent with all possible etiologies, including a newly emerging infectious agent, should be implemented. This may involve the combined use of airborne and contact precautions, in addition to standard precautions, until a diagnosis is established.

**Caring for patients with pandemic influenza**
Healthcare personnel should be particularly vigilant to avoid:

- Touching their eyes, nose or mouth with contaminated hands (gloved or ungloved). Careful placement of PPE before patient contact will help avoid the need to make PPE adjustments and risk self-contamination during use. Careful removal of PPE is also important.
- Contaminating environmental surfaces that are not directly related to patient care (e.g., door knobs, light switches)

**Hand hygiene**
Hand hygiene has frequently been cited as the single most important practice to reduce the transmission of infectious agents in healthcare settings (see http://www.cdc.gov/handhygiene/pressrelease.htm) and is an essential element of standard precautions. The term "hand hygiene" includes both handwashing with either plain or antimicrobial soap and water and use of alcohol-based products (gels, rinses, foams) containing an emollient that do not require the use of water.

- If hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap (either non-antimicrobial or antimicrobial) and water.
- In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection are preferred over antimicrobial or plain soap and water because of their superior microbiocidal activity, reduced drying of the skin, and convenience.
- Always perform hand hygiene between patient contacts and after removing PPE.
- Ensure that resources to facilitate handwashing (i.e., sinks with warm and cold running water, plain or antimicrobial soap, disposable paper towels) and hand disinfection (i.e., alcohol-based products) are readily accessible in areas in which patient care is provided. For additional guidance on hand hygiene see http://www.cdc.gov/handhygiene/.

**Disposal of solid waste**
Standard precautions are recommended for disposal of solid waste (medical and non-medical) that might be contaminated with a pandemic influenza virus:

- Contain and dispose of contaminated medical waste in accordance with facility-specific procedures and/or local or state regulations for handling and disposal of medical waste, including used needles and other sharps, and non-medical waste.
- Discard as routine waste used patient-care supplies that are not likely to be contaminated (e.g., paper wrappers).
- Wear disposable gloves when handling waste. Perform hand hygiene after removal of gloves.

**Patient-care equipment**
Follow standard practices for handling and reprocessing used patient-care equipment, including medical devices:

- Wear gloves when handling and transporting used patient-care equipment.
- Wipe heavily soiled equipment with an EPA-approved hospital disinfectant before removing it from the patient's room. Follow current recommendations for cleaning and disinfection or sterilization of reusable patient-care equipment.
- Wipe external surfaces of portable equipment for performing x-rays and other procedures in the patient's room with an EPA-approved hospital disinfectant upon removal from the patient's room.

**Environmental cleaning and disinfection**
Cleaning and disinfection of environmental surfaces are important components of routine infection control in healthcare facilities. Environmental cleaning and disinfection for pandemic influenza follow the same general principles used in healthcare settings.

**Cleaning and disinfection of patient-occupied rooms**
(See: www.cdc.gov/ncidod/hip/enviro/Enviro_guide_03.pdf)

- Wear gloves in accordance with facility policies for environmental cleaning and wear a surgical or procedure mask in accordance with droplet precautions. Gowns are not necessary for routine cleaning of an influenza patient's room.
- Keep areas around the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
- Use any EPA-registered hospital detergent-disinfectant. Follow manufacturer's recommendations for use-dilution (i.e., concentration), contact time, and care in handling.
- Follow facility procedures for regular cleaning of patient-occupied rooms. Give special attention to frequently touched surfaces (e.g., bedrails, bedside and over-bed tables, TV controls, call buttons, telephones, lavatory surfaces including safety/pull-up bars, doorknobs, commodes, ventilator surfaces) in addition to floors and other horizontal surfaces.
- Clean and disinfect spills of blood and body fluids in accordance with current recommendations for Isolation Precautions (http://www.cdc.gov/ncidod/dhqp/gl_isolation.html).

**Postmortem care**
Follow standard facility practices for care of the deceased. Practices should include standard precautions for contact with blood and body fluids.

**Occupational health issues**
Healthcare personnel are at risk for pandemic influenza through community and healthcare-related exposures. Once pandemic influenza has reached a community, healthcare facilities must implement systems to monitor for illness in the facility workforce and manage those who are symptomatic or ill.

- Implement a system to educate personnel about occupational health issues related to pandemic influenza.
- Screen all personnel for influenza-like symptoms before they come on duty. Symptomatic personnel should be sent home until they are physically ready to return to duty.
- Healthcare personnel who have recovered from pandemic influenza should develop protective antibody against future infection with the same virus, and therefore should be prioritized for the care of patients with active pandemic influenza and its complications. These workers would also be well suited to care for patients who are at risk for serious complications from influenza (e.g., transplant patients and neonates).
- Personnel who are at high risk for complications of pandemic influenza (e.g., pregnant women, immunocompromised persons) should be informed about their medical risk and offered an alternate work assignment, away from influenza-patient care, or considered for administrative leave until pandemic influenza has abated in the community.

**Reducing exposure of persons at high risk for complications of influenza**
Persons who are well, but at high risk for influenza or its complications (e.g., persons with underlying diseases), should be instructed to avoid unnecessary contact with healthcare facilities caring for pandemic influenza patients (i.e., do not visit patients, postpone nonessential medical care).

**Monitoring patients for pandemic influenza and instituting appropriate control measures**
Despite aggressive efforts to prevent the introduction of pandemic influenza virus, persons in the early stages of pandemic influenza could introduce it to the facility. Residents returning from a hospital stay, outpatient visit, or family visit could also introduce the virus. Early detection of the presence of pandemic influenza in a facility is critical for ensuring timely implementation of infection control measures.

- Early in the progress of a pandemic in the region, increase resident surveillance for influenza-like symptoms. Notify state or local health department officials if a case(s) is suspected.
- If symptoms of pandemic influenza are apparent (see Supplement 5), implement droplet precautions for the resident and roommates, pending confirmation of pandemic influenza virus infection. Patients and roommates should not be separated or moved out of their rooms unless medically necessary. Once a patient has been diagnosed with pandemic influenza, roommates should be treated as exposed cohorts.
- Cohort residents and staff on units with known or suspected cases of pandemic influenza.
- Limit movement within the facility (e.g., temporarily close the dining room and serve meals on nursing units, cancel social and recreational activities).

**Prehospital care (emergency medical services)**
Patients with severe pandemic influenza or disease complications are likely to require emergency transport to the hospital. The following information is designed to protect EMS personnel during transport.

- Screen patients requiring emergency transport for symptoms of influenza.
- Follow standard and droplet precautions when transporting symptomatic patients.
- Consider routine use of surgical or procedure masks for all patient transport when pandemic influenza is in the community.
- If possible, place a procedure or surgical mask on the patient to contain droplets expelled during coughing. If this is not possible (i.e., would further compromise respiratory status, difficult for the patient to wear), have the patient cover the mouth/nose with tissue when coughing, or use the most practical alternative to contain respiratory secretions.
- Oxygen delivery with a non-rebreather face mask can be used to provide oxygen support during transport. If needed, positive-pressure ventilation should be performed using a resuscitation bag-valve mask.
- Unless medically necessary to support life, aerosol-generating procedures (e.g., mechanical ventilation) should be avoided during prehospital care.
- Optimize the vehicle's ventilation to increase the volume of air exchange during transport. When possible, use vehicles that have separate driver and patient compartments that can provide separate ventilation to each area.
- Notify the receiving facility that a patient with possible pandemic influenza is being transported.
- Follow standard operating procedures for routine cleaning of the emergency vehicle and reusable patient care equipment.

Triage patients calling for medical appointments for influenza symptoms:

- Discourage unnecessary visits to medical facilities and instruct symptomatic patients on infection control measures to limit transmission in the home and when traveling to necessary medical appointments.

**"Source control" measures**

- Post signs that promote cough etiquette in common areas (e.g., elevators, waiting areas, cafeterias, lavatories) where they can serve as reminders to all persons in the healthcare facility. Signs should instruct persons to:
    - Cover the nose/mouth when coughing or sneezing.
    - Use tissues to contain respiratory secretions.
    - Dispose of tissues in the nearest waste receptacle after use.
    - Perform hand hygiene after contact with respiratory secretions.
- Facilitate adherence to respiratory hygiene/cough etiquette. Ensure the availability of materials in waiting areas for patients and visitors.
- Provide tissues and no-touch receptacles (e.g., waste containers with pedal-operated lid or uncovered waste container) for used tissue disposal.
- Provide conveniently located dispensers of alcohol-based hand rub.
- Provide soap and disposable towels for hand washing where sinks are available.
- Promote the use of procedure or surgical masks and spatial separation by persons with symptoms of influenza.
- Offer and encourage the use of either procedure masks (i.e., with ear loops) or surgical masks (i.e., with ties or elastic) by symptomatic persons to limit dispersal of respiratory droplets.
- Encourage coughing persons to sit at least 3 feet away from other persons in common waiting areas.

**Patient placement**

Where possible, designate separate waiting areas for patients with symptoms of pandemic influenza. Place signs indicating the separate waiting areas. Place symptomatic patients in an evaluation room as soon as possible to limit their time in common waiting areas.

**Other ambulatory settings**

A wide variety of ambulatory settings provide chronic (e.g., hemodialysis units) and episodic (e.g., freestanding surgery centers, dental offices) healthcare services. When pandemic influenza is in the region, these facilities should implement control measures similar to those recommended for outpatient physician offices. Other infection control strategies that may be utilized include:

- Screening patients for influenza-like illness by phone or before coming into the facility and rescheduling appointments for those whose care is non-emergency
- Canceling all non-emergency services when there is pandemic influenza in the community

**Care of pandemic influenza patients at alternate care sites**

If an influenza pandemic results in severe illness that overwhelms the capacity of existing healthcare resources, it may become necessary to provide care at alternative sites (e.g., schools, auditoriums, conference centers, hotels). Existing "all-hazard" plans have likely identified designated sites for this purpose. The same principles of infection control apply in these settings as in other healthcare settings. Careful planning is necessary to ensure that resources are available and procedures are in place to adhere to the key principles of infection control.

**Interim Guidance for Cleaning Emergency Medical Service (EMS) Transport Vehicles during an Influenza Pandemic**

Following are general guidelines for cleaning or maintaining Emergency Medical Service (EMS) Transport Vehicles after transporting a suspected influenza patient during a pandemic[1]. This guidance may be modified or additional procedures may be recommended by the Centers for Disease Control and Prevention (CDC) as part of the evaluation of an ill traveler, when an influenza pandemic becomes widespread in the United States, or as new information about a pandemic strain becomes available.

EMS agencies should define mechanisms of rapidly modifying infection control and decontamination procedures based on the most recent research and scientific information, including federal, state and local pandemic influenza guidelines. State, local, tribal and territorial EMS agencies, in coordination with federal, state and local public health departments, 911 programs, and emergency management and health care officials should ensure that EMS pandemic influenza plans define a process for gathering and developing updated pandemic influenza information, including clinical standards, treatment protocols and just-in-time training and disseminate it to local EMS medical directors and EMS agencies[2]. There should be clearly defined procedures for rapid dissemination of pandemic influenza information. This should include coordination with the CDC's Health Alert Network, Public Health Information Network (PHIN), and/or Public Health Information Rapid Exchange (PHIRE).

EMS agencies should consistently practice basic infection control procedures including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of Food and Drug Administration (FDA)-regulated medical personal protective equipment (PPE) regardless of the likelihood of an influenza pandemic[3]. EMS agencies should adopt day-to-day infection control and decontamination procedures consistent with the most recent CDC and Occupational Safety and Health Administration (OSHA) guidance.

Influenza viruses can persist on nonporous surfaces for 24 hours or more, but quantities of the virus sufficient for human infection are likely to persist for shorter periods. Although the relative importance of virus transfer from inanimate objects to humans in spreading influenza is not known, hand transfer of the virus to the mucous membranes of the eyes, nose, and mouth resulting in infection is likely to occur. Hand hygiene[4], cough etiquette and respiratory hygiene[5] are the principal means of interrupting this type of transmission. Routine cleaning and disinfection practices may play a role in minimizing the spread of influenza.

Routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chances of hand transfer of virus. Influenza viruses are susceptible to inactivation by a number of chemical disinfectants readily available from consumer and commercial sources (for more general information about disinfection of environmental surfaces, see the CDC/ Healthcare Infection Control Practices Advisory Committee (HICPAC) "Guidelines for Environmental Infection Control in Health-Care Facilities," available at: http://www.cdc.gov/ncidod/dhqp/gl_environinfection.html). All disinfectants marketed in the United States are required to be registered by the U.S. Environmental Protection Agency (EPA). These products must be used in accordance with their label instructions; following label instructions is necessary to achieve adequate efficacy and to avoid unreasonable adverse effects.

If the patient to be transported can tolerate a facemask (e.g., a surgical mask), its use can help to minimize the spread of infectious droplets in the patient care compartment. After the patient has been removed and prior to cleaning, the air within the vehicle may be exhausted by opening the doors and windows of the vehicle while the ventilation system is running. This should be done outdoors and away from pedestrian traffic.

Some reusable equipment may need to be covered with disposable plastic covers to protect it from contamination if it cannot be decontaminated with disinfectants without the chance of damage to the equipment (per the manufacturers' recommendations). These covers should be changed as appropriate (e.g., after each shift, after every run) or when they are visibly contaminated. Dispose of these covers in a leakproof bag or waste container.

Routine cleaning methods should be employed throughout the vehicle with special attention in certain areas as specified below:

1. Clean and disinfect non-patient-care areas of the vehicle according to the vehicle manufacturer's recommendations.
2. Non-patient-care areas of the vehicle, such as the driver's compartment, may become indirectly contaminated, such as by touching the steering wheel with a contaminated glove. Personnel should be particularly vigilant to avoid contaminating environmental surfaces that are not directly related to patient care (e.g., steering wheels, light switches). If the surfaces in the driver's compartment become contaminated, they should be cleaned and disinfected according to the recommendations in item 4 below.
3. Wear non-sterile, disposable gloves that are recommended by the manufacturer of the detergent/disinfectant while cleaning the patient-care compartment and when handling cleaning and disinfecting solutions. Dispose of gloves if they become damaged or soiled or when cleaning is completed, in a sturdy leakproof (e.g., plastic) bag that is tied shut and not reopened. State and local governments should be consulted for appropriate disposal decisions. Barring specific state solid or medical waste regulations to the contrary, these wastes are considered routine solid wastes that can be sent to municipal solid waste landfills without treatment. Never wash or reuse disposable gloves. Avoid activities that may generate infectious aerosols. Eye protection, such as a faceshield or goggles, may be required if splashing is expected. Cleaning activities should be supervised and inspected periodically to ensure correct procedures are followed.
4. Frequently touched surfaces in patient-care compartments (including stretchers, railings, medical equipment control panels, adjacent flooring, walls, ceilings and work surfaces, door handles, radios, keyboards and cell phones) that become directly contaminated with respiratory secretions and other bodily fluids during patient care, or indirectly by touching the surfaces with gloved hands, should be cleaned first with detergent and water and then disinfected using an EPA-registered hospital disinfectant in accordance with the manufacturer's instructions. Ensure that the surface is kept wet with the disinfectant for the full contact time specified by the manufacturer. Adhere to any safety precautions or other recommendations as directed (e.g., allowing adequate ventilation in confined areas, and proper disposal of unused product or used containers). Federal agencies have learned about and collaborated to address problems associated with inappropriate use of liquids on electronic medical equipment. The problems included equipment fires and other damage, equipment malfunctions, and healthcare worker burns. The root cause of the problems was likely corrosion of electronic circuitry by disinfecting or cleaning solutions that penetrated the equipment housings. Healthcare workers routinely sprayed the housings with disinfectants or wrapped the housings with disinfectant-soaked towels. These practices are generally not consistent with the equipment manufacturers' directions for use, which typically recommend wiping the housing with a soft cloth dampened with a mild detergent and water. To avoid the hazards described above, review your policies on equipment management and assignment of responsibility for key tasks associated with said management. Please see http://www.fda.gov/cdrh/safety/103107-cleaners.html for more information.
5. Non-porous surfaces in patient-care compartments that are not frequently touched can be cleaned with detergent and water. Avoid large-surface cleaning methods that produce mists or aerosols or disperse dust in patient-care areas (e.g., use wet dusting techniques, wipe application of cleaning and/or disinfectant solutions).
6. Clean any small spills of bodily fluids (e.g., vomit from an ill patient) by cleaning first with detergent and water followed by disinfection using an EPA-registered hospital disinfectant from EPA List D or E in accordance with the manufacturer's use instructions and safety precautions.

7. Large spills of bodily fluids (e.g., vomit) should first be managed by removing visible organic matter with absorbent material (e.g., disposable paper towels discarded into a leak-proof properly labeled container). The spill should then be cleaned and disinfected as above.
8. Place contaminated reusable patient care devices and equipment in biohazard bags clearly marked for cleaning and disinfection or sterilization as appropriate.
9. Clean and disinfect or sterilize reusable devices and equipment according to the manufacturer's recommendations.
10. After cleaning, remove and dispose of gloves as instructed in a leakproof bag or waste container[6]. State and local governments should be consulted for appropriate disposal decisions. Barring specific state solid or medical waste regulations to the contrary, these wastes are considered routine solid wastes that can be sent to municipal solid waste landfills without treatment. .
11. Immediately clean hands with soap and water or an alcohol-based hand gel. Avoid touching the face with gloved or unwashed hands.

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[1] This guidance does not apply to helicopters or airplanes used as EMS Transport Vehicles.

[2] Guideline 1.4 – A Systems Approach, EMS Pandemic Influenza Guidelines for Statewide Adoption, U.S. Department of Transportation, May 3, 2007

[3] Guideline 6.2 - Infection Control and Decontamination, EMS Pandemic Influenza Guidelines for Statewide Adoption, U.S. Department of Transportation, May 3, 2007

[4] When washing hands with soap and water: Wet your hands with clean running water and apply soap. Use warm water if it is available. Rub hands together to make a lather and scrub all surfaces. Continue rubbing hands for 20 seconds. Rinse hands well under running water. Dry your hands using a paper towel or air dryer. If possible, use your paper towel to turn off the faucet. Remember: If soap and water are not available, use an alcohol-based hand gel to clean hands. When using an alcohol-based hand gel: Apply product to the palm of one hand. Rub hands together. Rub the product over all surfaces of hands and fingers until hands are dry. (http://www.cdc.gov/cleanhands/)

[5] The following measures to contain respiratory secretions are recommended for all individuals with signs and symptoms of a respiratory infection: Cover the nose/mouth when coughing or sneezing; use tissues to contain respiratory secretions and dispose of them in the nearest covered waste receptacle after use; if you don't have a tissue, cough or sneeze into your upper sleeve, not your hands; perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand gel, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials (http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm and http://www.cdc.gov/flu/protect/covercough.htm )

[6] Employees should be trained to remove PPE to prevent self-inoculation (e.g., touching a contaminated glove and then touching one's eyes, nose, or mouth

**Cleaning instructions for ambulance and equipment**

| Equipment | Procedure |
|---|---|
| Airway | Dispose of article or Clean with disinfectant or bleach and water solution |
| Blood pressure cuffs | Clean with detergent |
| Backboards | Clean with detergent |
| Bulb syringe | Dispose of article |
| Cannulas, masks, one-way valves | Dispose of article |
| Cervical collars | Dispose of article or Clean with detergent |
| Dressing and paper products | Dispose of article |
| Non-specified equipment, supply boxes | Clean with disinfectant or bleach and water solution |
| Electronic equipment | Clean with disinfectant or bleach and water solution |
| Emesis basin | Dispose of article |
| Protective eyewear | Clean with detergent |
| Gloves (latex, vinyl, etc,) | Dispose of article |
| Gloves (protective, non-disposable) | Clean with detergent or Launder with soap and hot water |
| Linens | Dispose of article or Launder with soap and hot water |
| Face masks (PPE) | Dispose of article |
| Flashlights, penlights | Dispose of article or Clean with a high-level disinfectant (sterilization of equipment) |
| PASG 1 | Dispose of article or Clean with detergent |
| Pocket masks | Clean with detergent |
| Protective equipment (bunker gear, etc.) | Launder with soap and hot water |
| Regulators and tanks | Clean with detergent |
| Restraints | Dispose of article Clean with a high-level disinfectant (sterilization of equipment) |
| Resuscitators (BVM) | Dispose of article or Clean with a high-level disinfectant (sterilization of equipment) |
| Scissors | Clean with disinfectant or bleach and water solution |
| Spinal immobilization devices | Clean with disinfectant or bleach and water solution |
| Splints | Clean with detergent |
| Stethoscope | Clean with detergent |
| Stretcher | Clean with disinfectant or bleach and water solution |
| Suction catheters | Dispose of article or Clean with a high-level disinfectant (sterilization of equipment) |
| Suction unit and collecting containers | Clean with disinfectant or bleach and water solution |
| Uniforms, clothing | Launder with soap and hot water |
| Ambulance interior and floors | Clean with disinfectant or bleach and water solution |

**APPENDIX 5**

*CDC EMS and Non-Emergent Transport Organizations*
*Pandemic Influenza Planning Checklist*
Used for Just-in-Time Training

**Emergency Medical Services and Non-Emergent (Medical) Transport Organizations Pandemic Influenza Planning Checklist**

Emergency Medical Service and Medical Transport Checklist (PDF - 225.09 KB)

Planning for pandemic influenza is critical for ensuring a sustainable health care response. The Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist to help emergency medical services (EMS) and non-emergent (medical) transport organizations assess and improve their preparedness for responding to pandemic influenza. EMS organizations will be involved in the transport of acutely ill patients with known or suspected pandemic influenza to emergency departments; some of these patients might require mechanical ventilation for life support and/or other lifesaving interventions. Non-emergent (medical) transport organizations will be called upon to transport recovering pandemic influenza patients to their home, residential care facility, or possibly to alternate care sites set up by state or local health departments. This checklist is modeled after one included in the HHS Pandemic Influenza Plan (www.hhs.gov/pandemicflu/plan/sup3.html#app2). The list is comprehensive but not complete; each organization will have unique and unanticipated concerns that also will need to be addressed as part of a pandemic planning exercise. Also, some items on the checklist might not be applicable to all organizations. Collaborations among hospital, public health and public safety personnel are encouraged for the overall safety and care of the public. Further information can be found at www.pandemicflu.gov.

This checklist identifies key areas for pandemic influenza planning. EMS and non-emergent (medical) transport organizations can use this tool to self-assess and identify the strengths and weakness of current planning. Links to websites with information are provided throughout the document. However, actively seeking information that is available locally or at the state level will be necessary to complete the development of the plan. Also, for some elements of the plan (e.g., education and training programs), information may not be immediately available and monitoring of selected websites for new and updated information will be necessary

**1. Structure for planning and decision making.**

| Tasks | Not Started | In Progress | Complete |
|---|---|---|---|
| • Pandemic influenza has been incorporated into emergency management planning and exercises for the organization. | ☐ | ☐ | ☐ |
| • A planning committee [1] has been created to specifically address pandemic influenza preparedness. | ☐ | ☐ | ☐ |
| • A person has been assigned responsibility for coordinating pandemic influenza preparedness planning (hereafter referred to as the pandemic response coordinator) for the organization. (Insert name, title, and contact information.)<br>_____<br>_____<br>_____ | ☐ | ☐ | ☐ |
| • Members of the planning committee include the following: (Insert below or attach a list with name title and contact information for each.) | ☐ | ☐ | ☐ |

| | | | |
|---|---|---|---|
| Administration: _____<br>Medical staff: _____<br>EMS providers: _____<br>Phone triage personnel/dispatch center: _____<br>Emergency management officer: _____<br>State/local health official: _____<br>Law enforcement official (for quarantine/security): _____<br>Other member [2] : _____ | | | |
| • A point of contact (e.g., internal staff member assigned infection control responsibility for the organization or an outside consultant) for questions/consultation on infection control has been identified. (Insert name, title, and contact information.)<br>_____<br>_____<br>_____<br>_____ | ☐ | ☐ | ☐ |

**2. Development of a written pandemic influenza plan.**

| Tasks | Not Started | In Progress | Complete |
|---|---|---|---|
| • Copies of relevant sections of the Department of Health and Human Services Pandemic Influenza Plan have been obtained. www.hhs.gov/pandemicflu/plan. | ☐ | ☐ | ☐ |
| • Copies of available community and state pandemic plans have been obtained. | ☐ | ☐ | ☐ |
| • A written plan has been completed or is in progress that includes the elements listed in #3 below. | ☐ | ☐ | ☐ |
| • The plan describes the organizational structure (i.e., lines of authority) that will be used to operationalize the plan. | ☐ | ☐ | ☐ |
| • The plan complements or is part of the community response plan. | ☐ | ☐ | ☐ |

**3. Elements of an influenza pandemic plan.**

| Tasks | Not Started | In Progress | Complete |
|---|---|---|---|
| **A plan is in place for surveillance and detection of pandemic influenza in the population served and the appropriate organizational response.** | ☐ | ☐ | ☐ |

- Responsibility has been assigned for monitoring national and state public health advisories (e.g., www.cdc.gov/flu/weekly/fluactivity.htm) and informing the pandemic response coordinator and members of the pandemic influenza planning committee when cases of pandemic influenza have been reported in the United States and when they are nearing the geographic area (e.g., state or city). (Insert name, title, and contact information of person responsible.)

  _____

  _____

- A system has been created to track influenza-like illness in patients transported to hospitals and among EMS staff and to report this information to the pandemic response coordinator (i.e., weekly or daily number of patients with influenza-like illness). For more information see www.cdc.gov/flu/professionals/diagnosis/. (Having a system for tracking illness trends in patients and staff during seasonal influenza will ensure that organizations can detect stressors that may affect operating capacity, such as staffing and supply needs, and hospital and emergency department capacity during a pandemic.)

  _____

  _____

| | | | |
|---|---|---|---|
| **A communication plan has been developed.**<br><br>▪ Key public health points of contact for pandemic influenza have been identified. (Insert below or attach a list with the name, title, and contact information for each.)<br>▪ Local health department contact: _____<br>_____<br>▪ State health department contact: _____<br>_____<br>▪ Local emergency management contact: _____<br>_____<br>▪ State emergency management contact: _____<br>_____<br>▪ Federal health emergency contact(s): _____<br>_____<br>▪ The organization's point person for external communication has been assigned. (Insert name, title, and contact information.)<br>_____<br>_____<br>(Having one person who speaks with the health department, and if necessary, media, local politicians, etc., will help ensure consistent communication is provided by the organization.)<br>▪ A list of healthcare entities and their points of contact (e.g., other local EMS and non-emergent [medical] transport organizations, local hospitals and their emergency departments, community health centers, residential care facilities has been created. (Insert location of or attach copy of contact list.)<br>_____<br>_____<br>▪ A list of healthcare entities and their points of contact (e.g., other local EMS and non-emergent [medical] transport organizations, local hospitals and their emergency departments, community health centers, residential care facilities has | ☐ | ☐ | ☐ |

been created. (Insert location of or attach copy of contact list.)

_____

_____

- The pandemic response coordinator has contacted local or regional pandemic influenza planning groups to obtain information on communication and coordination plans, including how EMS will be represented in the planning process. (For more information on state and local planning, see www.hhs.gov/pandemicflu/plan/part2.html#overview.)
- The pandemic response coordinator has contacted other EMS and non-emergent (medical) transport organizations regarding pandemic influenza planning and coordination of services.

**A plan is in place to ensure that education and training on pandemic influenza is provided to ensure that all personnel understand the implications of, and control measures for, pandemic influenza and the current organization and community response plans.**

- A person has been designated to coordinate education and training (e.g., identify and facilitate access to education and training programs, ensure that staff attend, and maintain a record of attendance at education and training programs). (Insert name, title, and contact information.)

_____

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- Current and potential opportunities for long-distance (e.g., web-based) and local (e.g., health department or hospital sponsored programs, programs offered by professional organizations or federal agencies) education of EMS and medical transport personnel have been identified. (For more information see www.cdc.gov/flu/professionals/training/.)
- Language and reading-level-appropriate materials for professional and non-professional personnel on pandemic influenza (e.g., available through state and federal public health agencies and professional organizations) have been identified and a plan is in place for obtaining these materials.
- Education and training include information on infection control measures to prevent the spread of pandemic influenza.
- Differences between responding to pandemic influenza and a mass casualty event have been incorporated into education and training programs.

**A plan has been developed for triage and management of patients during a pandemic that includes the following:**

- A system for phone triage of patients calling 911 or other emergency numbers that might be used (provide/post list of appropriate numbers) that includes pre-established criteria and coordination protocols to determine who needs emergency transport. The system includes points of referral for patients who do not need emergency transport.
- A plan for coordination with receiving facilities (e.g., hospital emergency departments), other EMS and non-emergent (medical) transport organizations, and local planning groups to manage the transportation of large numbers of patients at the height of the pandemic.

| | | | |
|---|---|---|---|
| ▪ A policy and procedure for transporting multiple patients with pandemic influenza during a single ambulance run.<br>▪ The plan considers the possible necessity of sharing transportation resources or using vehicles other than those designed for emergency or medical transport (e.g., buses). | | | |
| An infection control plan is in place and includes the following: (For information on infection control recommendations for pandemic influenza, see www.hhs.gov/pandemicflu/plan/sup4.html).<br><br>▪ A plan for implementing Respiratory Hygiene/Cough Etiquette for patients with a possible respiratory illness.<br>▪ The plan includes distributing masks [3] to symptomatic patients who are able to wear them (adult and pediatric sizes should be available), providing facial tissues and receptacles for their disposal, and hand hygiene materials in EMS and medical transport vehicles.<br>▪ Implementation of Respiratory Hygiene/Cough Etiquette has been exercised during seasons when seasonal influenza and other respiratory viruses (e.g., respiratory syncytial virus, parainfluenza virus) are circulating in communities.<br>▪ A policy that requires healthcare personnel to use Standard Precautions (www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html) and Droplet Precautions (i.e., mask for close contact) (www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html) with symptomatic patients. | ☐ | ☐ | ☐ |
| **An occupational health plan has been developed that includes the following:**<br><br>▪ A liberal/non-punitive sick leave policy for managing EMS and non-emergent (medical) transport personnel who have symptoms of, or documented illness with, pandemic influenza.<br>▪ The policy considers the following:<br>  ▪ Handling of staff who become ill at work.<br>  ▪ When personnel may return to work after recovering from pandemic influenza.<br>  ▪ When personnel who are symptomatic but well enough to work will be permitted to continue working.<br>  ▪ Personnel who need to care for their ill family members.<br>▪ A system for evaluating symptomatic personnel before they report for duty that has been tested during a non-pandemic influenza period.<br>▪ A list of mental health and faith-based resources available to provide counseling to personnel during a pandemic.<br>▪ Management of personnel who are at increased risk for influenza complications (e.g., pregnant women, immunocompromised healthcare workers) by placing them on administrative leave or altering their work locations.<br>▪ The ability to monitor seasonal influenza vaccination of personnel.<br>▪ Offering annual influenza vaccine to personnel. | ☐ | ☐ | ☐ |
| **A vaccine and antiviral use plan has been developed.**<br><br>▪ Websites containing current CDC and state health department recommendations | ☐ | ☐ | ☐ |

for the use and availability of vaccines and antiviral medications have been identified. (For more information, see www.hhs.gov/pandemicflu/plan/sup6.html and www.hhs.gov/pandemicflu/plan/sup7.html.)

- An estimate has been made of the number of personnel who will be targeted as first and second priority for receipt of pandemic influenza vaccine and antiviral prophylaxis, based on HHS guidance for use. (For more information, see www.hhs.gov/pandemicflu/plan/appendixd.html.)
- Discussions have been held with the local and/or state health department regarding the role of the organization in a large-scale program to distribute vaccine and antivirals to the general population.

| **Concerns related to surge capacity during a pandemic have been addressed.** | | | |
|---|---|---|---|
| ▪ A plan is in place for managing a staffing shortage within the organization because of illness in personnel or their family members.<br>▪ The minimum number and categories of personnel necessary to sustain EMS and non-emergent (medical) transport services on a day-to-day basis have been determined.<br>▪ Contingency staffing plans have been developed in collaboration with other local EMS and non-emergent (medical) transport providers.<br>▪ Hospitals and regional planning groups have been consulted regarding contingency staffing resources.<br>▪ Anticipated consumable resource needs (e.g., masks, gloves, hand hygiene products) have been estimated.<br>▪ A primary plan and contingency plan to address supply shortages have been developed. These include detailed procedures for the acquisition of supplies through normal channels and requesting resources for replenishing supplies when normal channels have been exhausted.<br>▪ Plans include stockpiling at least a week's supply of resources when evidence exists that pandemic influenza has reached the United States.<br>▪ An understanding of the process exists for requesting and obtaining assets for the organization made available through the community response plan. | | | |

[1] Size of committee can vary, depending on the size and needs of the organization.

[2] Some organizations may need or want to include a school official or volunteer coordinator for local civic and preparedness groups (e.g., Medical Reserve Corps, Citizen Corps, Community Emergency Response Teams, Rotary Club, Lions, Red Cross).

[3] Masks include both surgical and procedure types. Procedure masks that are affixed to the head with ear loops might be used more easily by patients and are available in pediatric and adult sizes. Either surgical or procedure masks may be used as a barrier to prevent contact with respiratory droplets.

# Appendix 6

## EMS & PSAP Directories

# ADHS Bureau of Emergency Medical Services & Trauma System
# Certificate of Necessity (CON) Holders by EMS Preparedness Region

As of May 15, 2009

## Central Region

| | |
|---|---|
| 75 | American Ambulance |
| 46 | American ComTrans Ambulance Service |
| 121 | Black Canyon Fire Department |
| 8 | Buckeye Valley Volunteer Rescue Unit |
| 58 | Canyon State Ambulance |
| 105 | Daisy Mountain Fire District |
| 13 | Eloy Fire District Ambulance Service |
| 78 | Gila Bend Rescue/Ambulance |
| 76 | Phoenix Fire Department |
| 71 | PMT Ambulance |
| 109 | Rural/Metro Corporation (Maricopa) |
| 86 | Southwest Ambulance - Maricopa |
| 85 | Southwest Ambulance of Casa Grande, Inc. |
| 66 | Southwest Ambulance & Rescue of Arizona |
| 114 | Sun City West Ambulance Service |
| 12 | Sun Lakes Fire District |
| 125 | Superior Emergency Medical Services |
| 112 | Tonto Basin Fire District |
| 126 | Tri-City Fire District Ambulance Service |

## Northern Region

| | |
|---|---|
| 90 | Action Medical Service, Inc. - Ganado |
| 104 | Action Medical Service, Inc. - Winslow |
| 128 | Blue Ridge Fire Department |
| 25 | Camp Verde Fire and EMS |
| 29 | Forest Lakes Fire District |
| 26 | Guardian Medical Transport |
| 4 | Heber-Overgaard Fire District |
| 88 | Holbrook EMS, Inc. |
| 111 | Lakeside Fire District |
| 62 | Life Line Ambulance Service, Inc. |
| 117 | Mayer Fire District Ambulance Service |
| 3 | Montezuma-Rimrock Fire Department |
| 102 | Page Fire Dept. Ambulance Service (City of) |
| 81 | Pine/Strawberry Fire Department |
| 96 | Pinetop Volunteer Fire District |
| 2 | Pinewood Fire Department |
| 116 | Puerco Valley Ambulance Service |
| 127 | Sacred Mountain Medical Service |
| 1 | Sedona Fire District |
| 110 | Show Low EMS |
| 47 | Snowflake/Taylor Ambulance Service |
| 36 | St. Johns Emergency Services |
| 49 | Verde Valley Ambulance Company, Inc. |
| 123 | Verde Valley Fire District |
| 64 | White Mountain Ambulance Service, Inc. |

## Western Region

| | |
|---|---|
| 131 | Baker Emergency Medical Services, Inc. |
| 124 | Beaver Dam/Littlefield Fire District |
| 39 | Bullhead City Fire Dept. Ambulance Svc. |
| 22 | Colorado City Fire Department |
| 82 | Fort Mojave Mesa Fire Department |
| 40 | Golden Shores Fire Dept. Ambulance Svc. |
| 130 | Grapevine Mesa Fire District |
| 99 | Lake Mohave Ranchos Fire District |
| 38 | Mohave Valley Fire Dept. Ambulance Svc. |
| 129 | Motorsports Medical Services |
| 94 | River Medical, Inc |
| 65 | Rural/Metro Corporation (Yuma) |
| 79 | Somerton Fire Department |
| 35 | Tri-Valley Ambulance Service, Inc. |

## Southeastern Region

| | |
|---|---|
| 101 | Ajo Ambulance, Inc. |
| 120 | Arizona Ambulance Transport |
| 5 | Avra Valley Fire District |
| 100 | Bisbee Fire Department |
| 32 | Douglas Ambulance Service (City of) |
| 11 | Drexel Heights Fire Department |
| 17 | Elfrida Ambulance Service |
| 18 | Fry Fire District |
| 56 | Golder Ranch Fire District |
| 84 | Greenlee County Ambulance Service |
| 103 | Healthcare Innovations, Inc. |
| 23 | Kearny Ambulance Service (Town of) |
| 54 | Kord's Southwest |
| 30 | Nogales Ambulance Service |
| 52 | Picture Rocks Fire Department |
| 92 | Rin Valley Fire District |
| 20 | Rio Rico Fire District |
| 55 | Rural/Metro Corporation (Pima) |
| 87 | Rural/Metro Corp. (Pinal) dba Tri City Med |
| 107 | San Manuel Fire Department Association |
| 24 | Sierra Vista Fire Department |
| 63 | Southwest Ambulance of Safford |
| 33 | Sunsites-Pearce Fire District Amb. Svc. |
| 122 | Three Points Fire District |
| 6 | Tubac Fire District Ambulance Service |
| 108 | Tucson Fire Department |
| 119 | Whetstone Fire District Ambulance Service |

**Arizona PSAP Directory**

Confidential
Available upon Request

**APPENDIX 7**

Transport Guidance

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**APPENIDIX 8**

Arizona Mutual Aid and Interoperability Channels Programming Guide


# STATEWIDE INTEROPERABILITY EXECUTIVE COMMITTEE

TITLE: SUBSCRIBER PROGRAMMING GUIDE - ARIZONA MUTUAL AID and INTEROPERABILITY CHANNELS

DATE January 24, 2007

POLICY # 07-005

Replaces Policy # 07-005 rev. 1.0 per ARRC decision on 01/24/2007

REV # 1.1

## VHF CHANNELS

| AZ-SIEC NAME | BAND-WIDTH | TX FREQ MHz | TX CTCSS Hz | RX FREQ MHz | RX CTCSS Hz | NCC NAME |
|---|---|---|---|---|---|---|
| AIRSAZ | 25 KHZ | 155.190 | 156.7 | 155.475 | CSQ | |
| AIRS1 | 25 KHZ | 155.190 | 141.3 | 155.475 | CSQ | |
| AIRS2 | 25 KHZ | 155.190 | 131.8 | 155.475 | CSQ | |
| AIRS3 | 25 KHZ | 155.190 | 110.9 | 155.475 | CSQ | |
| AIRS4 | 25 KHZ | 155.190 | 123.0 | 155.475 | CSQ | |
| AIRS5 | 25 KHZ | 155.190 | 167.9 | 155.475 | CSQ | |
| VAIRS_D | 25 KHZ | 155.475 | 156.7 | 155.475 | CSQ | 1LAW16 |
| VCALL | 12.5 KHZ | 155.7525 | 156.7 | 155.7525 | CSQ | 1CAL18 |
| VTAC1 | 12.5 KHZ | 151.1375 | 156.7 | 151.1375 | CSQ | 1TAC5 |
| VTAC2 | 12.5 KHZ | 154.4525 | 156.7 | 154.4525 | CSQ | 1TAC13 |
| VTAC3 | 12.5 KHZ | 158.7375 | 156.7 | 158.7375 | CSQ | 1TAC22 |
| VTAC4 | 12.5 KHZ | 159.4725 | 156.7 | 159.4725 | CSQ | 1TAC23 |

## UHF CHANNELS

| AZ-SIEC NAME | BAND-WIDTH | TX FREQ MHz | TX CTCSS Hz | RX FREQ MHz | RX CTCSS Hz | NCC NAME |
|---|---|---|---|---|---|---|
| AIRSAZ | 25 KHZ | 465.375 | 100.0 | 460.375 | CSQ | |
| AIRS1 | 25 KHZ | 465.375 | 141.3 | 460.375 | CSQ | |
| AIRS2 | 25 KHZ | 465.375 | 131.8 | 460.375 | CSQ | |
| AIRS3 | 25 KHZ | 465.375 | 110.9 | 460.375 | CSQ | |
| AIRS4 | 25 KHZ | 465.375 | 123.0 | 460.375 | CSQ | |
| AIRS5 | 25 KHZ | 465.375 | 167.9 | 460.375 | CSQ | |
| UAIRS_D | 25 KHZ | 460.375 | 100.0 | 460.375 | CSQ | |
| UCALL | 12.5 KHZ | 458.2125 | 156.7 | 453.2125 | CSQ | 4CAL27 |
| UCALL_D | 12.5 KHZ | 453.2125 | 156.7 | 453.2125 | CSQ | 4CAL27D |
| UTAC1 | 12.5 KHZ | 458.4625 | 156.7 | 453.4625 | CSQ | 4TAC28 |
| UTAC1_D | 12.5 KHZ | 453.4625 | 156.7 | 453.4625 | CSQ | 4TAC28D |
| UTAC2 | 12.5 KHZ | 458.7125 | 156.7 | 453.7125 | CSQ | 4TAC29 |
| UTAC2_D | 12.5 KHZ | 453.7125 | 156.7 | 453.7125 | CSQ | 4TAC29D |
| UTAC3 | 12.5 KHZ | 458.8625 | 156.7 | 453.8625 | CSQ | 4TAC30 |
| UTAC3_D | 12.5 KHZ | 453.8625 | 156.7 | 453.8625 | CSQ | 4TAC30D |

## 800 MHz CHANNELS

| AZ-SIEC NAME | BAND-WIDTH | TX FREQ MHz | TX CTCSS Hz | RX FREQ MHz | RX CTCSS Hz | NCC NAME |
|---|---|---|---|---|---|---|
| AIRSAZ | 20 KHZ | 821.0125 | 156.7 | 866.0125 | CSQ | 8CAL90 |
| AIRS1 | 20 KHZ | 821.0125 | 141.3 | 866.0125 | CSQ | 8CAL90 |
| AIRS2 | 20 KHZ | 821.0125 | 131.8 | 866.0125 | CSQ | 8CAL90 |
| AIRS3 | 20 KHZ | 821.0125 | 110.9 | 866.0125 | CSQ | 8CAL90 |
| AIRS4 | 20 KHZ | 821.0125 | 123.0 | 866.0125 | CSQ | 8CAL90 |
| AIRS5 | 20 KHZ | 821.0125 | 167.9 | 866.0125 | CSQ | 8CAL90 |
| 8AIRS_D | 20 KHZ | 866.0125 | 156.7 | 866.0125 | CSQ | 8CAL90D |
| 8TAC1 | 20 KHZ | 821.5125 | 156.7 | 866.5125 | CSQ | 8TAC91 |
| 8TAC1_D | 20 KHZ | 866.5125 | 156.7 | 866.5125 | CSQ | 8TAC91D |
| 8TAC2 | 20 KHZ | 822.0125 | 156.7 | 867.0125 | CSQ | 8TAC92 |
| 8TAC2_D | 20 KHZ | 867.0125 | 156.7 | 867.0125 | CSQ | 8TAC92D |
| 8TAC3 | 20 KHZ | 822.5125 | 156.7 | 867.5125 | CSQ | 8TAC93 |
| 8TAC3_D | 20 KHZ | 867.5125 | 156.7 | 867.5125 | CSQ | 8TAC93D |
| 8TAC4 | 20 KHZ | 823.0125 | 156.7 | 868.0125 | CSQ | 8TAC94 |
| 8TAC4_D | 20 KHZ | 868.0125 | 156.7 | 868.0125 | CSQ | 8TAC94D |
| 8TAC5 | 20 KHZ | 821.0375 | 156.7 | 866.0375 | CSQ | |
| 8TAC5_D | 20 KHZ | 866.0375 | 156.7 | 866.0375 | CSQ | |